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U. S. DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
JOHN EATON, COMMISSIONER.

ART AND INDUSTRY.

EDUCATION
IN THE
INDUSTRIAL AND FINE ARTS
IN
THE UNITED STATES.

BY

ISAAC EDWARDS CLARKE, A. M.

PART I.—DRAWING IN PUBLIC SCHOOLS.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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Letter from the Secretary of the Interior, transmitting, in compliance with the Senate resolution of February 2, 1880, a report from the Commissioner of Education, prepared by I. Edwards Clarke, A. M., on instruction in industrial drawing, etc.

MAY 20, 1880.—Referred to the Committee on Education and Labor and ordered to be printed.

DEPARTMENT OF THE INTERIOR,
Washington, May 26, 1880.

SIR: In response to Senate resolution of February 2, 1880; which directed me to furnish the Senate with a statement containing all the information possessed by this Department relative to the development of instruction in drawing as applied to the industrial or fine arts in the colleges of agriculture and the mechanic arts and in the public schools and other institutions of the country with special reference to the utility of such instruction in promoting the arts and industries of the people, I have the honor to submit the accompanying statement prepared by the Commissioner of Education.

Very respectfully,

C. SCHURZ,
Secretary.

The PRESIDENT OF THE SENATE.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., May 26, 1880.

SIR: I have the honor to acknowledge the receipt on the 5th day of February by reference from the Department, on that day, for report to you thereon, of the Senate resolution of February 2, as follows:

"*Resolved*, That the Secretary of the Interior be and he is hereby directed to furnish the Senate with a statement containing all the information in his possession relative to the development of instruction in drawing as applied to the industrial or fine arts in the colleges of agriculture and the mechanic arts and in the public schools and other institutions of the country, with special reference to the utility of such instruction in promoting the arts and industries of the people."

In response thereto I transmit herewith a copy of the Special Report upon these topics which, at my direction and request, has been made to this office by I. Edwards Clarke, A. M.

This Report has been carefully prepared and contains an amount of comprehensive and accurate historical and detailed information in regard to all the public institutions and means now existing in the United States for extending practical instruction in all those branches which bear upon the application of art to industry, and which thus have an especial influence "in promoting the arts and industries of the people."

In the preparation of this Report the facilities of this office have been fully availed of and in the case of the educational institutions, every information as to details of methods, etc., has been cheerfully furnished by those in charge, and the text and statistics thus compiled have been in turn submitted to those officers for revision, so that, if pains on the part of the author and compiler, combined with critical and minute revision of his work by those in each case most familiar with the institution treated, can be depended on to secure exactness, this Report may lay claim to such value as accuracy both as to historical and contemporary data, may give it.

The growing importance which this subject of training in the industrial arts is assuming in the minds of the people has been forced upon my attention by the great increase in the number of applications made to this office for information as to the facilities existing for affording such training.

The economic relations of this training are obvious. The great States of New York and Massachusetts, have already made the study of industrial drawing one of the required studies in all grades of the public schools, many of the leading cities in other States have followed their example. In this city of Washington, drawing has been taught in the public schools for several years, each year showing a great advance upon previous years as the pupils came to the higher grades after longer training in elementary work.

The value of this study for all school children and the practicability of its introduction in the schools has been more and more generally discussed; it is believed that much valuable information bearing directly upon this question is contained in the accompanying report.

The great awakening of the people to the value of taste as an element of manufactures and to a knowledge of the many possible applications of art to industrial products, which came from a sight of the displays made of foreign wares and tissues at the Centennial Exposition, has led to general interest in all forms of art training which promise practical results in similar productions in our own country; while a knowledge of the variety and amount of the raw material fitted for artistic manufactures which exists in this country, and which was first made known to the general public by the display of clays, kaolin, marbles, pigments, and other products shown at Philadelphia; has already led to the development of new, and the increased excellence of established, industries.

The interest of the multitude in the works of pure art, wholly removed from utility, was evinced by the thronging thousands that, at the Centennial Exposition, crowded the galleries devoted to the fine arts; this popular interest was a surprise to many, who had fancied a love for beauty, and an appreciation of the works of the artists, to be a result of education alone and confined to a class. This general interest shown in the paintings and statues, and the consequent increase which may be anticipated in the demand for the works of the artists, may be regarded as one of the causes which have led to a great increase in the number of art students who desire to fit themselves by means of the best technical training to become artists. This wide spread interest and activity gives promise of an important development in the art productions of the United States.

The subject of drawing, including industrial drawing in the public schools, and in the mechanic's night classes; of technical training in special institutions as "The Worcester Free Institute" and other similar schools; in the colleges of agriculture and the mechanic arts; in the schools of applied design; in the schools of architecture, and in the schools of painting and sculpture; is treated at length and in detail in this Report.

Descriptions of the public art museums in this country, and of the various means used by the art clubs, decorative art societies, and other similar bodies, to instruct and to develop in the public a correct taste based upon a knowledge and appreciation of the manifold applications of art to industry—by means of loan exhibitions, classes of instruction, public lectures, etc., are given, as essential to a complete knowledge of the facilities existing for the development of art industries in the United States.

As a measure of comparison, and a matter of general interest, a statement is made of what is done by other countries to develop and foster this taste by founding art and industrial museums, also of the efforts made by these foreign Governments to afford to their citizens opportunities for the thorough technical training needed to educate skillful workers in art industries.

I am sir, very respectfully, your obedient servant,

JOHN EATON,
Commissioner.

The Hon. SECRETARY OF THE INTERIOR.

WASHINGTON, D. C., *September* 2, 1884.

SIR: In submitting herewith the manuscript completed to date of the "Special Report upon Industrial and High Art Education in the United States" which owed its inception, to your early realization of the importance to a people, that the elementary education of their children should bear some definite relation to their future occupations and surroundings; and further, to your recognition of the fact that, within the last two decades, the conditions of life in the United States have greatly changed; it seems proper for me to express my sense of the obligation which is due to you, for the encouragement and assistance you have so freely given, in the preparation of this work; the publication of which,—owing to causes beyond the control of yourself or of the author,—has been so long, so frequently, and as it at times has seemed, so disastrously delayed. In view of these several delays, with their resulting consequences as shown in the size of this constantly growing Report, of necessity most miscellaneous in its contents—and, moreover, considering the rapid changes in public opinion upon all matters relating to art, as well as the development of new artistic industries in this country subsequent to the Philadelphia Centennial Exhibition, all of which has gone on "pari passu" with its preparation—an introductory chapter, explanatory and descriptive of the contents of this Report and of its Appendices, has seemed requisite.

I remain very truly your obedient servant,

I. EDWARDS CLARKE.

Hon. JOHN EATON,
United States Commissioner of Education.

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Interest in further industrial and technical training of children, awakened by the success of the introduction of drawing in Massachusetts schools—Advent, and early recognition by Congress, of the new scientific education—Public schools the preparatory academies for the Agricultural Colleges and other Schools of Science—Universal teaching of elementary industrial drawing essential to any complete system of public education—Subject naturally divided into technical scientific training of workers in industries of applied art; and into technical professional training of artists and architects—A knowledge of drawing equally essential to industrial or high art—The general culture of the public in matters of art, as important to the development of artistic industries as is the technical training of artisans—Appendices, of necessity, miscellaneous—Systematic arrangement of material attempted—Histories of public art institutions in the United States—Need of industrial artistic and technical training of the people, if productive values are to be maintained.

One of the most striking and significant results of the experiment, begun in Boston in 1870, by the teaching of industrial drawing to the public school children of that city, has been the wide spread interest awakened throughout the United States in the further development of the industrial training of children. No sooner was it shown that it was possible to give to the children in the public schools, some elementary training of the hands and eyes, than a movement began in many places, to teach actual trades and handicrafts to the children while in school!

Though there might be danger that overzealous promoters of this so called "practical education" would in their earnestness, overstep the true province of education, overstrain childish muscles, and overtax the mental as well as bodily strength of the growing children, still the public good sense may be trusted to restrain and modify such extremes; while the intellectual activity, which has been aroused and stimulated by this new departure in education, if wisely directed into practicable channels, can hardly fail of accomplishing desirable results.

KINDERGARTEN AND OBJECT-TEACHING IN PUBLIC SCHOOLS.

The substitution of a knowledge of the thing, in place of a verbal account of the thing, which is characteristic of the kindergarten methods, has begun to be introduced in the schools and mechanic's classes of England, and, also, so notably here in the schools of Quincy, Mass., that it now goes in the United States by the name of the "Quincy method."

This has so developed as to lead the gentleman who was the first promoter of the publication of Walter Smith's books of industrial drawing, to form a new publication company; with the purpose of issuing in economical form, the materials requisite for such "object teaching" as is here referred to. This movement, *so far* as it tends to awaken the intellectual faculties of the child, and to encourage improved habits of study and observation is to be commended and fostered.

RESULTS OF THE INTRODUCTION OF DRAWING AS A PART OF ELEMENTARY EDUCATION.

It is referred to here only as one evidence of the rapid progress of the "evolution" of the principle embodied in the introduction of industrial drawing into the elementary public schools of the country. The practical bearing of this study upon the industries of the country, is shown in this tendency to begin the technical training of the future workman or workwoman, at a far earlier age than had been before thought practicable. The danger, as already suggested, lies in not recognizing the limitations set by nature. While the kindergärten method avails itself of the natural curiosity and wonderful activity of very young children, and in its educational processes closely follows the leadings of nature; the attempt to teach handicrafts to young boys may very easily go contrary to nature, by imposing tasks unfit for untrained minds and undeveloped muscles. No such objection can, however, lie against the study of industrial drawing. Weak indeed must be the hand that cannot lift a pencil, weaker the mind that, beginning at the beginning, cannot follow the graded and orderly steps, by which Walter Smith, basing his teaching on the everlasting truths of geometry, has arranged his progressive studies.

RESULTS TO BE ANTICIPATED FROM GENERAL INTRODUCTION OF DRAWING IN SCHOOLS.

When the study of drawing is regarded in all public schools as of the same importance as the study of reading and spelling, and as much time in the week is given to teaching drawing, as is given to either of these studies,—which has nowhere yet been done, for even in Boston this study has been admitted largely on "sufferance"—then, judging from the results already secured, it is reasonable to anticipate an increase in the numbers, as well as superior expertness in the skill, of American-born workmen. It is by reason of its direct bearing upon the development of skilled labor that this subject of the introduction of the study of elementary drawing based on geometry, and with a direct view to its application to industries, is of the national and general importance which seems to justify the preparation and publication of the present Report. Accounts of the experiments in introducing "manual training" in the public schools, as well as the reports of the special schools for such training and of the technical industrial schools, will be found in their appropriate connections in Part II of this Report.

THE LAND GRANT ACT OF 1862 THE RECOGNITION BY CONGRESS OF THE ADVENT OF SCIENCE AS A FACTOR IN EDUCATION.

The passage by Congress of the law establishing the "Colleges of Agriculture and the Mechanic Arts" as long ago as 1862, is proof that the need of some form of educational training, other than the purely literary courses which then comprised all that was given in the higher schools and colleges, was widely recognized. The new scientific education may justly be said to owe its beginning in this country, in the second quarter of the present century, to the zeal of the elder Professor Benjamin Silliman, of Yale College, whose few laboratory students were the precursors of the thronging numbers that have since crowded the halls of that department of the college known as the Sheffield Scientific School..

It is not forgotten that the youthful Professor-elect visited Philadelphia and Princeton, as well as Europe, during his preparation for assuming the new position made for him at Yale; but it was the enthusiasm and zeal of the young Yale Professor, that first awakened any general interest in the United States, in the study of the natural sciences.

The example and profound ability of his then student James D. Dana, since the distinguished professor of geology and mineralogy, in the same college, and whose fame is world-wide; and later, the coming of Agassiz to Cambridge, gave a wonderful impetus to the study of the sciences; and resulted in the developing of a group of distinguished scientists, and of numbers of skilled engineers and inventors, who have shed lustre upon American scholarship, while they have been potent factors not only in the development of the resources of their own country but in the material progress of the world.

DRAWING A REQUISITE PREPARATORY STUDY FOR ALL SCHOOLS OF SCIENCE.

A knowledge of drawing is so essential to any progress in many of the studies comprised in the regular courses of the schools of science that, in view of the almost total neglect at that time of this study in the public, or private elementary schools, it is little wonder that when the new colleges, created by the national land grant act, were first opened, there were frequent complaints that, for want of this indispensable preliminary training in the elements of drawing, nearly a year's time was lost in teaching the pupils that which should have been taught in the primary schools. While there were doubtless other studies in which a lack of suitable training was observed, drawing was both the most important of these preliminary studies, and the one in which deficiency was most common and most disastrous.

It is because this knowledge is indispensable as a preparation for the courses in the schools of science, that the teaching of the study of drawing in all the public schools of the country, is of importance to the colleges created by the national land grant of 1862; and it is in this connection, that one element of the practical value and importance of this training of the public school children in elementary drawing, can be readily seen.

THE COMMON SCHOOLS ARE THE PREPARATORY ACADEMIES FOR THE AGRICULTURAL COLLEGES.

The public schools are the academies that fit the students for the national agricultural colleges and therefore it is of importance to these colleges, that the studies taught in the public schools shall be such as are preparatory to their own courses of study.

In a country so vast as ours, with such variety of climate, material resources, and local needs; with communities in such different stages of development, as well as of such different dates of settlement—ranging from the two-and-a-half-century-old towns of the first settled Atlantic States, to the six-months-old mining camp of the frontiers; the educational needs of the several communities, varying as the commercial, manufacturing, agricultural, or mining employments of the inhabitants predominate; it follows, that, whenever, in a single work, an attempt is made to include that which may be applicable to the needs of each of these separate communities, there must be much which may seem to be either too elementary for the more advanced community, or too complex for the newer community, busied with the first needs of a new settlement.

THIS REPORT COMPRISES A GREAT VARIETY OF TOPICS.

The present Report, made in response to a call by the Senate for "all the information" in the possession of this Department "relative to the development of instruction in drawing as applied to the industrial or fine arts," as given in any of the public educational institutions of the United States, "with special reference to the utility of such instruction in promoting the arts and industries of the people" is therefore, of necessity, of a very miscellaneous character.

UNIVERSAL TEACHING OF ELEMENTARY DRAWING ESSENTIAL.

Its fundamental idea is, that universal teaching in all public schools of the elements of "industrial drawing"—meaning by that, an orderly progressive course of drawing based on geometry—is an essential part of any general system of the public education of a people; and is equally necessary, whether the after training of the child is to be that of an artisan, an artist, or a citizen engaged in any productive pursuit, or whether the child is to be so situated as to be removed from the ranks of producers to those of consumers.

NATURAL DIVISIONS OF SUBJECT.—INFLUENCE OF THE ART KNOWLEDGE OF A PEOPLE UPON THEIR ART INDUSTRIES.

The subject naturally separates into two main divisions: on the one hand, that embracing all matters relating to the technical industrial producing arts and artistic industries; on the other, those relating mostly to the Fine Arts; this last division properly includes three distinct subdivisions, relating, separately, to the theory and history; to the study and practice; and to the enjoyment and patronage, of art. The first of these minor divisions includes such a knowledge of the historical development of art, as must hereafter be implied in the term "liberal education," such as, within the past few years, has been taught in some of the classical colleges and universities; the second includes the special art schools, and academies for the technical training of artists,—architects, sculptors, painters, and engravers, preparatory to the actual production of works of high art; the third comprises the various means for promoting that general information and art culture of the public, which is derived largely from the opportunities of seeing choice works of art, in the collections of art museums and art loan exhibitions. The latter, having perhaps as important, if not as manifest, an influence upon the development of the industries and arts of a people, as the former; for the industries and arts of a people, are determined by their needs, their desires, and their intelligence.

So long as individuals and communities have never seen the added attractions given to buildings, furniture, clothing and household implements, by the application of art to such articles of prime necessity, so long there is no demand for the production of similar artistic articles; but let once their eyes be opened by a sight of the wonders of a "world's fair," or an "art loan collection," and immediately the demand is created. There is at first no ability, owing to lack of knowledge and skill on the part of the home workmen, to produce similar articles, consequently this demand must be met by importation. An increase of imports with no corresponding increase of exports is an evident disadvantage for the importing country. It is, therefore, of importance to any community, or country, to ascertain by what methods other countries have trained skilled artists and artificers, in order to adopt similar means; hence, an account of the experiments, expenditures and systems adopted by foreign countries, for these purposes, is directly demanded in such a report as this.

ACCOUNT OF THIS REPORT;—ITS DESIGN AND CONTENTS.

In order to a clearer understanding of the purposes of this Report, and of the variety of subjects considered in its pages, and the accompanying Appendices, the following condensed description of its preparation and contents is given:

In the preparation, by the author of the present Report, of the brief pamphlet, issued by the United States Bureau of Education as Circular No. 2, 1874, entitled "Drawing in the Public Schools; Art Education in the United States," an attempt was made to give a condensed statement of the history of the rise and progress of industrial art education, in Great Britain, and in the continental countries of Europe; more especially as explaining and illustrating the motives and methods of the then recent adoption, by the State of Massachusetts, of the study of drawing as one of the required studies in the public schools of that Commonwealth; in order to afford to the educators and educational officials of other States, and communities, an opportunity to form an intelligent judgment in relation to an experiment which had already excited much interest.

In connection with this scheme of elementary instruction in the rudiments of art, it seemed appropriate, since all art is one and a knowledge of drawing is the essential preliminary step to any practical art training, to give some account of the various institutions for art education, and of the several public art collections and museums, then existing in the United States. As there was then no accessible list of such institutions, and little record of them existed, it was first necessary to learn their names and localities. The difficulties, hindrances, and ill success, attending such preliminary efforts, can only be realized by those who have attempted similar undertakings; such results as were obtained, after the most thorough and persistent use of the facilities at the service of this Bureau, were given in that circular.

UNSATISFACTORY STATISTICS OF "CIRCULAR NO. 2."

How meager and incomplete these were, can be seen by contrasting the tables of statistics at the end of the circular, with the corresponding tables as given in the latest annual report of the Commissioner of Education. Taught by previous similar experience, in attempts to obtain educational statistics in other departments, these difficulties had been foreseen, and the publication of this circular was avowedly tentative and with the purpose of obtaining fuller information in regard to existing institutions, preliminary to a more complete publication.

PUBLIC INTEREST IN ART TOPICS.

The interest shown in this circular and the demand for it, which soon exhausted the edition, bore ample testimony to the general interest felt in the subject of the introduction of drawing into the public schools; while the information about local art collections and institutions, freely sent from all parts of the land, showed that, as a means of "collecting information," this circular was most efficient.

In view of the large, rapidly increasing and varied correspondence that grew out of this publication, it was thought advisable to prepare, in place of a simple revised edition of the circular at first intended, a much more comprehensive work; which should include such varied information in regard to the subjects of industrial art education, the higher art training institutions, and the public art collections, as was shown, by the letters received, to be desired.

HISTORY OF GROWTH OF THIS REPORT, AND DELAY OF ITS PUBLICATION.

It was first designed to issue this work as one of the Centennial publications of this Bureau and the manuscript was prepared for that purpose and at that time; but it became necessary in order to publish the report on libraries, and the annual report of the Commissioner, to defer the publishing of this Report on Art Education until after the close of the Centennial Exhibition. As that immediate occasion had passed, it was decided to give the Report a more permanent character by including, so far as possible, the history of the art institutions, and the public art collections in the United States, from their origin to the present day; to do, in short, for these institutions, what had been done for the libraries.

This implied in effect a recounting of the history of the art development of the country from the colonial period; in itself no small undertaking.

The unprecedented activity, progress and development of art culture in this country during the past few years, in a measure to be attributed to the influence of the Philadelphia exhibition, furnished an amount of new material which has added not a little to the labor of preparation. In the statistical tables given in the "Appendix" to the annual reports of the Commissioner, and in the record to be found in the Commissioner's own reports, under the head of "Art Education" a summary of this progress has been given from year to year.

HISTORIES OF ART ACADEMIES, MUSEUMS, COLLECTIONS, ETC.

In the historical accounts of the various art institutions, the design has been to give as full statements as could be obtained concerning the individuals who took part in their founding and development, with an account of the several steps taken, and of the character and quality of the works of art, as well of those included in special exhibitions, as in the permanent collections; while, from this cause, these histories may be open to the charge of too much minuteness of detail, it is hoped compensation may be found in the additional value they may thus possess, for those interested in the particular institution or exhibition, as well as by the opportunity afforded to each institution for measuring its future growth. In thus recording and perpetuating the names of all those public spirited citizens of the several communities, who, in the past, as well as recently, have so fully given of their substance, their time, and their influence, to aid the progress of civilization and culture;

only simple justice is shown to an exemplary class of public benefactors. To leave an honorable name, to desire to live in the memory of a grateful people, is no unworthy, or uncommon, ambition. That community will be wise and far-seeing, which will take care to nurture a like ambition, by the pains taken to honor and perpetuate the memory of former benefactors.

THE AUTHOR'S ACKNOWLEDGMENTS.

To those many kind and often personally unknown friends, in all parts of the United States, without whose aid this task could not have been accomplished, the compiler of these histories desires to return heartfelt thanks. To indicate all these kind friends by name, would be almost impossible and would incur the risk of unfortunate omissions.

A partial list of those to whom, in the preparation of this work, the writer has been more or less directly indebted for information, advice and assistance; not a few of the wisest and kindest of whom are, alas, already deceased; would include the names of the leading educators and educational officials in many of the States, cities, and towns, as well as in several of the universities and colleges, of the United States; of the officers, curators and principal promoters of all public art museums, art academies, art schools, and artistic associations and social clubs; the leading librarians; many individual manufacturers, also leading publishers, editors, art writers, and artists; a great number of private individuals, lovers of art and friends of education, with not a few of the members of Congress, both Representatives and Senators, who have manifested an interest in the work and aided, not a little, by encouragement and suggestions; while many of the Government officials in Washington have taken an intelligent interest in the progress of the work. Here in Washington, if nowhere else, may be realized the co-operation of the many which is essential to any comprehensive work by the one. The motto of the nation known as the United States, might well be taken as the motto of most of the works here published under its auspices, "*E pluribus unum.*"*

PLAN AND CONTENTS OF THE APPENDICES.

When an enlarged edition of the circular was first planned, in reply to varied and miscellaneous requests for information, the scheme of an appendix, which should contain such full statements upon all the diverse yet cognate topics which are included in a complete scheme of art education, was decided on; the object being to give, in one work, the necessary information relating not only to the elementary steps of such industrial art education as had been introduced in the public schools of Massachusetts, but also, such as would be useful to those planning the establishing of schools of high art, or of public art museums; with lists of art publications, of art material, etc., requisite to such undertakings,—information at that time most difficult to obtain. It was also thought desirable to give such extracts from foreign official reports, as well as from unofficial foreign material, as was requisite to an intelligent comprehension of the subject of art education in its entirety; since such information would not else be readily accessible to most American educators interested in these topics. In enlarging the scope of this work, this general plan has been retained.

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*For the typographical appearance of this work the author is solely indebted, for aid, to Capt. Henry T. Brian, Foreman of Public Printing, and to his courteous and accomplished assistants of the Government Printing Office.

GENERAL PLAN OF THE REPORT.

In the arrangement of the work, an attempt has been made to show the natural and orderly development of art education, beginning with the elementary drawing taught to children in the public schools, and progressing to the technical schools of industrial art on the one hand, or to the academies of high art on the other;—the same elementary training essential equally, to the artisan, and to the artist; while the loan exhibitions, and the permanent public art museums, are placed as the summit and crown of the public art educational instrumentalities.

Views of the leading art museum buildings with plans of their interior arrangement have been obtained whenever possible, and thanks to the co-operation of publishers and of museum officials, the arrangement of the art collections can be readily studied by all interested in planning buildings for the reception of similar collections.

As many inquiries were made as to what was proposed by this system of industrial art education, in response to the urgent request of the compiler, a number of sets of illustrations, giving the actual work of scholars in the Boston public schools, first issued in the report of the Boston committee on drawing 1874, were contributed to this publication by Messrs. J. G. Osgood, & Co. of Boston, Mass. the publishers;—the selections of subjects were made by the writer so as to present a fair view of the whole course of instruction then given, as shown by the copies of the actual work done by pupils.

The system has been introduced into the schools of so many cities and towns since that time, that there is no longer the same reason for their insertion that then existed; therefore, the limited number of copies of this Report which are thus illustrated, will be, as far as possible, distributed among those educators where as yet drawing has not been introduced into the public schools.

SUMMARY OF APPENDICES.

Under each topic of the somewhat comprehensive subjects of industrial and high art education, the purpose has been to collect, in the Appendices of this report, such material as shall best enable one investigating a given topic to come to an intelligent conclusion. The action of European countries, and of the State of Massachusetts, in regard to the elementary instruction in drawing, having been set forth in the opening pages of "Circular No. 2," that part of this circular, (now out of print) is retained and inserted in Appendix B. The questions relating to industrial art drawing and the practical results obtained by such training are of vital importance in coming to a decision as to the desirableness of introducing the study of drawing in the public schools; for this reason the author and editor of this Report felt that he had secured a most valuable addition to the work, when he obtained from the late Mr. Charles B. Stetson, the able author of the well known work on "Technical Education," a complete copy of his full report upon the results of industrial art education, as shown by the displays made in the educational department at the Centennial Exhibition; a report, for the preparation of which, Mr. Stetson was pre-eminently qualified. This report, now first published in full,—an abstract only appears in the official reports of the exhibition,—possesses added interest to the friends of the lamented author, in the fact that it was the last work of this accomplished educator; whose sudden death, is a loss, not only to his friends but to the cause to which he was so enthusiastically devoted.

In the matter of technical art education, the annual reports, made by the committee on education of the American Institute of Architects, contain so much of permanent value upon the subject in all its relations, that it has seemed desirable to include very full extracts from them.

The establishing of public art museums, is a matter of such vital importance, whether we consider the general art culture of the community, or the needs of students desiring special training in art, that the insertion of the record, from official publications, of what the countries of Europe have thought proper to do in adding to their collections from the treasures shown at the several recent world's fairs, will need no explanation. If those old lands, so rich in examples of art, feel the need of such special efforts to increase their stores, it needs no argument to demonstrate the essential value of public art collections, especially of articles of industrial art, in a new country lacking many other opportunities for general art culture.

The admirable and eloquent lecture delivered by Cardinal Wiseman upon " the artisan and the artist," is inserted, in view of objections that have been made against any scheme of general industrial art education; and, as showing most convincingly the unbroken chain which links all art, and all art workers.

An attempt has been made to secure a list of all art, and art educational, publications; especially of all the educational series of text-books which have been recently issued in this country. A list of these, compiled from the returns made by publishers in response to inquiries from this Bureau, is inserted.

PURPOSE IN PLANNING THE REPORT.

In short, in the preparation of this Report, the object sought has been to place in the hands of educators, and educational officials, the material not only for forming an intelligent judgment upon the advisability of introducing the study of drawing into the public schools; but also, as well, to furnish the facts needed for a like consideration of the questions arising in regard to establishing special schools of technical industrial art training, high art academies, public art museums, art libraries, and of making occasional public art loan exhibitions. This purpose must explain the somewhat miscellaneous nature of the articles contained in the Appendices.

While in the text descriptive of the several institutions, the latest facts received down to the date of publication have been embodied; in the tables of statistics, June 30th, 1877,* was taken as the date of closing the tables and unless otherwise stated, is the date of the statistics given.

The delays, which have caused the publication of this Report to be so long deferred, have not been without compensation in the added material, and more correct information, which has thereby been obtained.

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* The statistics as published in Part I. of this Report are those of the summer of 1882. The statistics above referred to were published in the annual report of the Commissioner of Education for 1877.

The conviction, that in the introduction of instruction in drawing in all the public schools of the country, and in the further development of industrial art education which must inevitably follow such universal elementary training of the hand and eye, there will be found, in no small degree, a remedy for the acknowledged defects of our present system of exclusive literary education, largely prompted the preparation of this work.

In the artistic development of our industrial resources will be found, it is believed, the surest foundation of our future material prosperity as a nation. The question of the kind of training that shall be given in the public schools of the country, is a vital one to the political economist, no less than to the moralist and the law-maker.

DETAILS OF ELEMENTARY ARTISTIC AND TECHNICAL TRAINING MUST BE ADAPTED, BY LOCAL AUTHORITIES, TO THE NEEDS OF THEIR SEVERAL COMMUNITIES.

A nation of workers are to be taught how to work. The problem of how to best educate a whole people is ever present and pressing for a solution.

The present Report has been prepared with the purpose, among others, of aiding the intelligent consideration of this question, in one of its important phases, by the local authorities in charge of schools in their respective States and neighborhoods; for, while it is believed that such simple training in the elements of drawing as has, for example, been given in the public schools of Washington, D. C., during the past few years, can be successfully introduced, with advantage, in every district school in each of the States; it is, at the same time, evident that the extent to which such instruction should be pursued, and the technical direction it should take, must be determined for each community, by the industries and needs of the different localities.

This diversity, which must be taken into account by the local authorities, has been kept in view in the preparation of this Report, and must explain the somewhat eclectic character of the articles in the Appendices,.still further varied by the extent of the subjects treated, which embrace the whole scheme of art education;—from elementary drawing in public schools, to the founding of public museums of art.

If this Report shall be held to have contributed, in a slight degree, to the solution of the industrial problem, a great purpose will have been accomplished.

ADDENDA.

The pages immediately preceding, descriptive of the plan of this Report and its Appendices, and beginning with the account of the preliminary circular on drawing, etc., published by this Bureau in 1874; were written in 1877 when the manuscript was, for the second time, made ready for the press; it was again ready in 1880, and the statistical tables then expressly prepared for this special report, appear in the annual report of the Commissioner of Education for that year.

DIFFICULTIES DUE TO DELAYS IN PUBLICATION.

This delay in going to press, being synchronous with the most wonderful activity and development of general interest in all art matters, as shown by the founding of special educational institutions, both for instruction in high art, and in all the applications of art to industries; and also, in the establishment of museums, and the holding of numerous art loan exhibitions, in widely scattered localities; it resulted that it was next to impossible to keep step in this Report with the art progress of the country,—though this task was industriously undertaken. The statistics which are now embodied in the tables which appear in Part I of this Report were collected down to the close of the school year 1881–1882. A comparison between these twenty-five crowded pages and the four meagre pages of similar statistics, in Circular No. 2, 1874, given in Appendix B, strikingly illustrates the extent of this progress.

The rapidity of the progress of interest in, and knowledge of, the many related subjects embraced in this general art movement of a whole people, has had a tendency to make much that was apposite in 1876 and 1878, almost obsolete in 1880 and 1882—the elementary statements important in the ealier stages of this development, seeming almost impertinent in the later stages, when knowledge of these topics has in some communities become so widely diffused.

If this progress of development had been alike all over the country, it is evident that much that is here included could properly be at once omitted. Nevertheless, in spite of this sudden awakening of interest and the eager pursuit of a knowledge of art matters, in many communities, there remain so many places, both in the older States, and in the newer settlements, where not even a beginning of practical industrial art training has been attempted, that there is still ample opportunity for the usefulness of the most elementary portions of this work.

To rewrite this Report from the beginning, with a view to the present condition of general interest and intelligence in art matters, were as fruitless as the endeavor to make the first pages of an encyclopædia, published serially, as inclusive of the latest acquisitions and discoveries of science as the pages last printed; with every passing day, progress is made, and the attempt in either case, would be comparable only to the unending labors of Sysiphus, or the fruitless task of the Danaides.

While in the historical account of the various institutions it has been sought to embody all details down to the latest moment, there seemed no more feasible plan than the one adopted, namely, in adding the new matter to leave the history as previously completed,* and under the head of "addenda" to proceed with the subsequent statements. In several of these statements where either the history was early finished, or where the later development has been the most important, the supplementary "addenda" far exceeds in length the history to which it is attached.

So it happens that, in its present form, this Report may, perhaps, be held to resemble somewhat, if only in the manner of its construction and consequent long-delayed completion, one of those vast, rambling, mediæval structures, to which succeeding ages have builded additions as the needs, or tastes of new generations impelled. In such a case as is suggested in this comparison, the house, which has been the family home for centuries, comes finally to seem rather a living growth than a dead building, and to grow vital with the continuous life of its inmates; the very irregularities, mistakes and inconsistencies, of the builders; the incongruous angles, gables and towers of the structure; but adding to its vitality, and lending themselves to combinations of picturesque beauty unattainable in more formal and academic edifices. It must be far otherwise, in the instance of a work like this, to which such idealization could, by no stretch of fancy, attach; the analogy, as is the wont of that delusive figure of speech, failing at the critical point, in a most essential quality; at best, such a comparison could only serve as an apology for a lack of external unity and form, consequent upon hindrances and delays in preparation. Sufficiently fortunate will it be, if, in this present work, an interior essential unity of purpose and design can still be recognized.

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* In view of the illustrated articles on several of the leading art academies and museums, which have appeared in the magazines during the past few years, purporting to give their history as well as a contemporary description, it is only just to the author and editor of this Report to state that the histories of the older institutions, down to that time, as given in Parts III and IV, were prepared and compiled by him as early as 1877, from original sources and investigations, and were by no means easily and lazily compiled from these magazine articles, which did not appear till long after the manuscript of this part of this Report had been completed. That this note is needed is one of many misfortunes incident to the delays in printing this Report.

NEEDS OF EDUCATORS, AS SPECIALISTS, KEPT IN VIEW.

It may not be out of place to suggest that, in common with most of the publications of this Bureau, the needs of educators as specialists, rather than the general public interest in a subject, have been kept in view. The many dry details of methods, the different courses of study here catalogued, which would be distasteful to the general reader will prove, it is hoped, of value, for comparison, to the instructors of similar institutions, and as showing the precise methods used to obtain certain specified results. In the account of the different schools much of this detailed material has been embodied with a view to its practical utility.

INTERESTS OF THE GENERAL READER CONSULTED WHEN POSSIBLE.

On the other hand, in the series of "Preliminary Papers" and in the histories of the older institutions, whatever was thought likely to add to the interest of the general reader was, so far as the matter seemed at all germane to the subject, included; while in the Appendices, many extracts from the eloquent writings of the great word masters who have written upon art have been collected.

THE ARRANGEMENT OF THE REPORT IN PARTS, OR VOLUMES.

It remains to add that in the final revision of the materials collected for this Report,—made long after the previous paragraphs were written, it was found expedient to arrange the work, designed at first to occupy but a single volume,—in four "parts," or volumes—and to bind with each "part" the Appendices particularly relating to its subject matter, so that each "part" will be, in a measure, complete in itself.

In accordance with this plan Part I. contains first the official orders and correspondence relating to publication, followed by this "Introductory Chapter," and by a series of original papers, concerning the several topics comprised in these volumes, together with a consideration of the complex questions underlying the subject matter of this Report; the remainder of the volume is devoted, first, to a history of some of the sporadic efforts to incorporate the study of drawing as a part of common elementary education, which long preceded the movement initiated by the calling of Walter Smith, to Boston, in 1870; secondly, to a full account of the development of this new feature in public education in Massachusetts, from the time of the coming of Professor Smith to Boston down to, and subsequent to, his final departure. So far as possible this history is compiled from the official reports as made by State and city educational officials.

The result of this forward step in the training given in the public schools, in leading to still other innovations, as manifested in the recent agitation for the addition of some form of manual training to the public school system, which is referred to in the opening paragraphs of this chapter, becomes more apparent in the closing pages of the volume; in the extracts given from the later official reports in the body of the book, and in the fact that the paper on "Industrial Education," by President Walker, which forms one of the later Appendices to this volume, was read before a convention of educators, in the summer of 1884. This movement for such practical training of school children as shall prepare them for the arts of industry is, in itself, a demonstration of the educational value of the study of industrial drawing to a community; since it thus appears that it not only educates the school children, but also their parents. Part I, it will be seen, is largely given to the interests of the common public schools, elementary and advanced.

The tables of statistics of public art schools and art museums, which precede the Appendices, are inserted as giving in brief the status of these institutions in 1881–'82. "Parts III" and "IV" will contain their history in detail.

By the insertion of these tables in this place, Part I is made more complete, as representative of the Report, and the earlier publication of the statistics is assured. It is also hoped that such additions will be reported by the several institutions, as will permit the insertion in Part IV of similar tables, giving the statistics for the year ending June 30th, 1885, so that this Report may include the latest, as well as fullest information.

THE ARRANGEMENT OF THE APPENDICES.

In the Appendices to Part I the papers are grouped in accordance with the arrangement of topics in the body of the volume.

Appendix A comprises papers connected with the early efforts undertaken from time to time by leading educators, artists, and art writers, to introduce the study of drawing in the common schools, in various places in the United States, during the first half of the nineteenth century. Incidentally, there is given, in extracts from a special report made in 1871, by Dr. Philbrick, the well known educational authority who was at that time superintendent of the Boston schools, a view of the gradual development of the public schools, from their earliest establishment in Massachusetts; showing how their scope has steadily enlarged and their studies multiplied, in order more efficiently to fit the pupils to meet the ever growing needs of modern life. In the light of this history, it appears, that the present demand on the public schools for training in industrial art, and in the use of tools, is but the logical outcome of events, and is wholly in accord with the previous development of the schools; is, in short, but a single latest step in educational evolution.

In addition to the American authorities here compiled in favor of popular education in art, and in testimony of the direct influence of artistic training upon industries, there is given an account of the contemporaneous struggles in England, and of the mistakes and failures there made; before the present comprehensive system of art education, with its magnificent results as shown in the new development of English art manufactures, was securely established.

These records of educational struggles in America and England, testify to the slowness of progress. They serve to illustrate by what labor and sacrifice of individuals, humanity advances. This appendix, records a chapter of human history at once sad and triumphant. These pages are full of suggestion, of warning, and of encouragement.

The accounts herein contained witness to the existence of certain fundamental principles of correct art training, and demonstrate the possibility of successfully educating a people in accordance therewith.

Appendix B is made up of the extracts from "Circular No. 2," before referred to; with a letter from President Andrew D. White of Cornell University indorsing the value of drawing as a study in common schools; and with extracts from Professor Walter Smith's able argument before the legislature of Pennsylvania, in favor of the claims to State support, of the "Pennsylvania Museum and School of Industrial Art."

Appendix C is a collection of papers, on the practical teaching of the new study, which includes the programmes of courses of study as arranged by Professor Walter Smith, art director of the State, for the schools of Massachusetts, with his practical talks to the teachers of the several grades of the public schools; and his addresses on similar topics delivered in Canada in 1882; two addresses, of like character and purpose, since delivered by Mr. Walter S. Perry, supervisor of drawing in the city of Worcester, Mass. are also included. This appendix will be found of especial interest to all teachers of industrial drawing in public schools, and of value to all educators, and educational officials, who wish to understand the purpose and scope of the new study.

Appendix D comprises papers relating to the history of the Massachusetts Normal Art School, referred to in the account of that school; also two published letters relating to the art director.

Appendix E comprises papers relating to the industrial art educational exhibits at the Centennial, reciting the preparations made therefor by educators, and describing much that was there shown; it includes the valuable report on "Popular Instruction in Elementary Drawing" based on the International Exhibition at Philadelphia in 1876, made by the late Mr. Charles B. Stetson, showing the condition of the study at that time; with this, it will be of interest to compare the latest account of the situation as contained in the "Report on the Present Condition of Drawing in the Public and Normal Schools in the United States," made to the National Educational Association, at Madison Wis., in the summer of 1884, by a committee, appointed the year previous. The final paper in this appendix is the statement made to the International Educational Conference in London, August 1884, of the courses of drawing as taught "in the public schools of Belgium," here inserted for comparison with the methods adopted in American schools.

Appendix F is wholly compiled from the official publications of the English "Science and Art Department;" and gives, in brief, a history of the origin, progress, and present development of the Department; with a list of officials; an account of the various instrumentalities used, and institutions established, or aided, by the Department; with lists of art-books, examples, and casts, approved for use in art education. The various abstracts in this appendix will serve to convey some adequate idea of the vast scope, complex machinery, and far-reaching purposes, of this important Department of the administrative Government of Great Britain.

The enormous aggregate of money expended during the past thirty years for the purposes of the art education of the people, and the large sums still annually expended for this purpose, in the interest of a population numbering but little more than one-half of that of the United States, utterly dwarfs all that is done in this direction, by this nation; or, by the several States, and communities, of the United States.

If the Government and people of Great Britain are wise, in thus annually increasing their expenditure for the promotion of the industrial art education of the people—and the results have fully justified their policy in this respect—what reasons can be advanced to justify the continued apathy of American legislators, and communities, in regard to the relations that exist between the industrial art training, and the industries and manufactures, of a people?

That a people, so proverbially lavish of their means for the purposes of education, so profuse in their personal expenditure for foreign art products, as are the Americans; should remain insensible to the importance of the movements, now going on in all civilized countries, for the promotion of the industrial, artistic, and technical, training of the people, is passing strange. In no other respects have the Americans been accused of a like indifference to anything affecting their pecuniary interests!

The papers in this appendix indicate further sources of information, so that those so desiring can pursue their investigations; as the English official publications can be ordered through any English bookseller.

The purpose of this compilation was, not only to give a view of the English system as a whole, but also, to furnish for study and comparison, details of courses of study, of materials used for instruction, and of methods used for the promotion of a general knowledge and interest in art matters, and for these reasons the official price lists of books, casts, and models, are inserted.

Appendix G is the paper on "Industrial Education" read by President Walker, of the Massachusetts Institute of Technology, before the Social Science Association at Saratoga, September 9, 1884, which is a timely and forceful contribution to the discussion of the new education.

Appendix H is a report of the inaugural address of Lord Reay, on the occasion of the opening of the first International Conference on Education, held in London, in connection with the Health Exhibition, in August 1884. This interesting and comprehensive address, with the brief discussion that followed, in which Mr. Lowell, the American minister, and Mr. Mundella participated, fitly closes Part I, and in some measure serves to introduce Part II of this Report.

Part II is occupied with accounts of sporadic attempts at art education in some public schools; the new manual training schools; the various mechanics' night schools, and other similar institutions, by which benevolent and public spirited citizens have sought to provide a partial equivalent, for the omission of any form of industrial art training in public schools;—the various schools for technical industrial education; the agricultural colleges; and the schools of science.

The Appendices to this volume are arranged similarly to those in Part I. Those of Part II are largely composed of material showing what foreign nations are doing towards promoting the scientific and artistic training of their people, and the interest taken in these efforts by their leading statesmen.

Part III is given to an account of the public schools and academies of the fine arts, and to various associations and classes for similar training; with such material in the Appendices as relates to these institutions.

Part IV includes some historical notice of the early development of art in the United States, it is however mostly given to the public art galleries and art museums, historically and as at present existing; it contains also some accounts of art loan exhibitions, art clubs, and social clubs giving occasional art exhibitions; it is intended to comprise the various public instrumentalities for promoting a knowledge and love of art, by the general public.

The Appendices as in the previous parts contain material germane to the body of the volume.

IT IS HOPED THAT THROUGH ALL THE DIVERSITY OF MATERIAL HEREIN COMPRISED A LOGICAL UNITY WILL BE RECOGNIZED.

In considering the numerous, varied, and comprehensive topics, to be found in the pages of the Report, and of its numerous Appendices, the thoughtful reader may, perchance, trace a chain of logic uniting them all; such a reader will, it is hoped, find that these are no "pearls at random strung," but treasures brought together to serve a definite and consistent purpose.

THE GUIDING PURPOSE DEFINED.

That purpose is, to make clear the mutual relation of the arts; to show the importance to a country, of the general application of art to industries; to demonstrate the possibility of successfully developing in any country, by definite educational processes, the taste and skill requisite to the profitable prosecution of such artistic industries; to urge the importance, both of commencing the elementary training needed at an early age, and of making the rudiments of this industrial education as universally a part of the training of every child in the community, as the knowledge of the alphabet is now made; to illustrate the possibility of doing this, as shown by the recent educational history of different countries and communities; to point out the imperative need of beginning this training at once; to call attenton to the extraordinary facilities possessed by the communities of the United States in their public school systems, for the most rapid and successful introduction of this training; and to emphasise the direct bearing of such wide spread instruction upon the industries and arts of the whole people.

So much for the practical, industrial, material, side of the argument; while, in like manner, the relations of art to the civilization of a people are illustrated by many American and foreign writers, who are entitled to speak with authority.

The value of the study of art in the colleges and universities, as an element of general culture, and the importance of a knowledge of the arts and architecture of the Greeks and Romans, as illustrating the classic writers; the uses of museums of archæology, art, and industrial art; the added charm given by beauty of form and of color, to the buildings and objects that environ our daily life; the refining and ennobling mission of art; and, first and last, the absolute unity of all art, whether applied to the adornment of some object of common use, or to the expression of some grand thought of a mighty master; are each, in turn, suggested.

CONCLUSION.

Finally,—to urge the practicability and advisability of introducing industrial art education throughout these United States;—to show the intimate relation of this movement to the prosperity of a manufacturing people; and to enumerate the resources and instrumentalities now available in this country for the development of industrial and high art; sum up, in briefest words, the purposes and contents of this Report.

ART AND INDUSTRY.

THE DEMOCRACY OF ART.

PRELIMINARY PAPERS
UPON THE
RELATIONS
OF
ART
TO
EDUCATION, INDUSTRY,
AND
NATIONAL PROSPERITY.

BY
ISAAC EDWARDS CLARKE, A. M.

"I do not want art for a few any more than education for a few or freedom for a few."
WILLIAM MORRIS.

"No system of education is truly solid and sound and democratic which does not make it possible for the child of superior merit, however poor, to mount to the highest round of the educational ladder."
JOHN D. PHILBRICK.

THE DEMOCRACY OF ART.

The words of the poet artist voice the purpose of this volume and explain the title of these preliminary papers, while Dr. Philbrick's statement of the purpose of free public education suggests the intimate connection between the liberties and the education of a people—Art once dependent on the patronage of popes and kings—The association of the arts in the minds of the Puritans, with the "Restoration" and "the Papacy," the cause of their antagonism to them—This ancestral prejudice against the arts, inherited and widely extended throughout the United States—The causes of this prejudice long since extinct—This prejudice, already weakened by the influence of the Centennial Exhibition, must soon disappear—Art in the great ages always democratic—Art always greatest when secure of the sympathy of the people—Edward Everett on the favorable influences of a Republic on the development of literature and the arts—Art in the Republics of Greece and in the mediæval Republics of Italy—The Campanile of Giotto in Florence—The Monument to Washington, in Washington City, D. C.

The words of William Morris, the English Poet Artist, set on the title page of these papers, express the motive of this Report, while they may also serve to illustrate and justify the title of these introductory essays; for, I am well aware that the title under which these preliminary papers are grouped, will doubtless seem to many if not paradoxical at least ill chosen.

In the strictest limitation of the words, "Democracy" and "Aristocracy," designate simply two different and antagonistic forms of government. In the course of centuries, however, these words, though adopted bodily from a dead language into a living one, have partaken of the vicissitudes common to all living languages, and so, either by the processes of analogy, by the tendency of the mind to multiply synonyms, and to designate some one thing by a word often originally applied to an entirely different thing, or, by the contrary tendency, to burden words with meanings whereby one word serves many uses, the terms have come to imply in the popular understanding, whether as yet recognized by dictionary makers or not, much more than the mere technical designations of particular forms of government; for which they were first invented.

The word democracy or its derivatives may be applied to anything relating to the people, anything in which the common people, or the people as a whole as distinguished from classes of the people are concerned, though such things may have no special reference to a form of government.

In the present application of the word to art, it will be found applicable if held to strictest limitation. The democratic governments, the so-called "Republics," both in ancient times and during the middle ages, were always the great and inspiring patrons of art. The term is also here used in its broader, more general sense, as referring to something which concerns, in countless ways, the interests of all the people.

By placing on the title page, beside the significant words of William Morris, the comprehensive expression, by Dr. Philbrick, of the ideal purpose of free education in a Republic, the topics necessarily considered in these preliminary essays are suggested, as well as the intimate relations which must of necessity exist between the art, and the education of a free people.

It would not, however, be strange if many persons should still consider that a more truthful title would have been the "Aristocracy of Art" since, for some centuries, the works of the artists have been almost exclusively in the possession of royal, noble, or priestly personages, who in the early period of the Renaissance, were necessarily almost the sole patrons of art, the chief employers of the artists. The Church was, in fact, the great patron of art before and immediately subsequent to its first "revival," so that many of the most famous works of the great masters of the Renaissance, and their immediate predecessors, were done in the service of the Church; in the building and adorning of cathedrals, churches and monasteries. Right royally have the humble artists repaid their debt to these once powerful patrons; for the Popes, Sovereigns, and lordly Abbots who were so fortunate and so enlightened as to secure their services, would now hardly be remembered but that to them the world is indebted for some of the noblest of the *chef d'œuvres* of Cimabue, Giotto, Bellini, Massaccio, Perugino, Titian, Lionardo, Angelo, Raphael, Corregio, Cellini, Veronese, Velasquez, Murillo, and many another.

It was doubtless largely owing to this association in the minds of the first colorists of New England with Royalty and with Papacy, that what seems to have been a positive aversion to art was engendered. The whitewash of the iconoclastic puritans and reformatory zealots in England, Scotland and Switzerland, which, in church and cathedral, effaced from sight such works of painter or carver as had escaped the destructive wrath which broke the statues, demolished the stained glass windows, and despoiled the fair ornaments of the House of God, still bears witness to the intensity of the passion, which could see in these objects,—whose exquisite symmetry and fragile beauty must often have mutely pleaded for their preservation,—only the symbols of an abhorred faith.

It was then not alone the poverty of the worshippers that, for so many generations, made the interior of the barn-like structures of the New England "Meeting Houses" so bare and repulsive. Consciously or unconsciously, these bare walls with their staring windows gave utterance to an hereditary protest against anything that savored of the Restoration and of Papacy! Nor did this indiscriminate proscription of the arts of architecture, sculpture and painting, spare the sister art of music; for, though the psalmody of Sternhold and Hopkins was duly droned by the worshipping congregations, the introduction of stringed instruments, the violoncello and the violin, was long strenuously resisted; while, in many instances it was not till within the last quarter of a century that the organ, that noble instrument beloved of Milton, was reluctantly admitted within the sacred precincts; for strange as it seems, not even the honored name of the great protestant poet, the secretary of the Commonwealth, availed to gain it entrance.

It is far otherwise now, and the rising generation may well be pardoned for reading these statements with incredulity; since even throughout New England, many a congregation of undoubted puritan ancestry, soothed by the singing of a paid choir to the accompaniment of a costly organ, serenely worships in a Gothic church, illumined with emblematic windows of colored glass and adorned with painted walls! When, as it sometimes happens, the building, here erected for the uses and simple forms of worship of a protestant congregation, has been too servilely copied from foreign church or cathedral, designed for the stately and imposing ceremonials of the church of Rome, the incongruity between the building and its present uses is so apparent that one queries whether, in fact, the spirit of the art of architecture is not as truly absent from the pretentious modern building, as were the graces of architecture from the plainness of its bare walled predecessor.

This protest against the historic customs and events which led to the emigration of many of the early settlers from their English homes to the American wilderness, lasted for more than two centuries, and the consequent prejudice against the arts became widespread throughout the United States, and is still vaguely shared by many who not suspecting its origin, do not imagine that their instinctive dislikes are only an inherited prejudice, a legacy left by the political and religious conflicts in England nearly three hundred years ago.

So persistent and widespread was this prejudice against the Fine Arts that it has been gravely urged that any proposition before Congress, no matter how excellent in itself, would have little chance of approval if it was openly avowed that it was for the encouragement of art.

While the strange embargo on the importation of works of art into this country, enacted a few years ago by Congress in the imposition of a duty of some 30 per cent. on all such works, would seem to lend a slight color of probability to such a statement, it is by no means conclusive; for this duty was doubtless imposed with a purpose to protect American artists and in the supposed interest of art in this country.

When Congress shall come to realize that this duty, both by its direct and indirect influence, works only injury to all the art interests of the country, and that this is the judgment of the artists themselves in whose pretended interest it was urged, it will doubtless be repealed.

Any one who, at the Centennial, saw the eagerness with which the American people thronged the art building, and observed their evident enjoyment of the paintings and statues there shown, must from that time forth be incredulous as to any long continuance of this prejudice against art.

It will not then be surprising if, at no distant day, the representatives of these American people in Congress assembled manifest as intelligent an interest in all matters relating to the welfare of the arts, as they now do in those affecting the interests of the inventors and the farmers; for the American people will then have realized the vital importance of the subject, by reason of the direct and indirect relations of art to their industries and their prosperity.

It has seemed worth while to thus trace the remote causes that have led to such long continued and widespread indifference to art, so markedly in contrast with the sentiment prevailing among the other civilized nations of the earth, on the part of a people who, in their love for learning, their cultivation of literature and their investigations in science, have kept pace with the most enlightened nations. The more obvious causes of the delayed development of the arts in the newly settled continent, are recited elsewhere in these papers. It is only sought to show here, that the existent underlying prejudices, which would naturally antagonize the introduction in the various systems and institutions of public education, of the elementary and advanced training, equally essential to the development of the Industrial Arts and of the Fine Arts, had their origin in causes long since obsolete; and, further, to suggest, that the cultivation and patronage of the arts, is as legitimate for the citizens of a Republic as for the Rulers of a Monarchy.*

For such alliance between the arts and the people, high precedent is not wanting, since, though from the beginnings of modern history the monopoly of the works of art by the ruling classes was long continued, it should never be forgotten that it was not always thus. There was an Age, and a Republic, in which the arts flourished as never elsewhere; and in which art had no entangling alliance with aristocracy. In the home of Phidias, art was literally the art of the people. Then in Athens was seen the true "Democracy of Art," when all the citizens took each a personal, lively and intelligent interest in the works of their artists. When such is the case it can be the more easily understood how great artists arise; since the artist but emphasizes, as it were, the common thought, he only embodies in his own person a little more than do others, of the universal instinct. The sympathy of a whole people sustains and inspires him. If with such surroundings there were not great artists it would be more marvellous than is the fact that in the unsympathic soil of America there appeared, from time to time, both before and just after the independence of the colonies, here and there, for the most part in the midst of uncongenial surroundings, individuals with artistic natures vigorous enough to break through the obstacles of their environment and to secure their own development. In some notable instances, however, the result was the voluntary expatriation of the adventurous artists; whose art lives were mostly passed in England, or in Italy, where were to be found the congenial surroundings and the art atmosphere, then almost wholly lacking in America.

In further witness of the truth that where Liberty loves to dwell there will the arts delight to come, that a Democracy, a Republic, is not only as favorable to the development of literature and the arts, as is a Monarchy, but must, from the very nature of man, be, in the end, more propitious to the putting forth of all his powers; a few words, spoken, some sixty or more years ago, on a memorable occasion, to a company of scholars, in the presence of the revered Lafayette, by Edward Everett are quoted below.

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* See Part 1, Appendix A, Paper VI, for an account of the condition of Art Patronage in England, in the early part of the Nineteenth Century.

The name of Everett is a synonym for all that is most winning in eloquence, most admirable in scholarship, most attractive in culture. As scholar, diplomatist, statesman, orator, philosopher, patriot, he filled out the full measure of an honored and honorable life. and contributed no ordinary share to the encouragement of the finer forms of civilization in America; as well as to the growth, among his fellow countrymen, of a sound, intelligent, patriotic devotion to the country he so loved and adorned.

Rarely gifted by nature, fortunate in the surroundings, and in the era in which his life was cast; firm in his faith in the Republic, and in the truth and persistence of the ideas he was early called to champion, he lived to witness the triumphant vindication of those principles, and to know that the faith of his youth was based on enduring foundations. It was his happy fortune, not only, to have welcomed Lafayette to Cambridge in 1824, and to have forever associated his own name with the memory of Washington by his successful efforts to secure the preservation of Mount Vernon, but also, as the chosen orator of the day, to stand beside Lincoln, at Gettysburg, on that November day in 1863, made memorable forever by the words then spoken by the Martyr President! Such a life, coeval with the growth, the crisis, and the triumph of the Republic, linking with its golden memories and patriotic efforts the days of the Revolution to those of the restored Union, Lafayette to Lincoln, Washington to Grant, may well be termed fortunate!

The theme of the orator at Cambridge on the occasion referred to, was a recital of "The circumstances favorable to the Progress of Literature in the United States of America." The few sentences that follow, from this comprehensive and philosophic address,—in which the serene wisdom of the scholar, fused by the ardor of the patriot, flows with the resistless eloquence once so welcome and so familiar to the contemporaries of Everett,—are limited to the setting forth of the relations of free governments both to literature and the arts. It was with Literature chiefly as the special theme of his discourse addressed to professional scholars, that the orator dealt, but, as will appear, art was not ignored; while the arguments adduced as grounds of faith in a glorious development of Literature, are sufficiently broad and comprehensive to include all the arts. I am happy in being able to produce such distinguished authority in support of the fitness of the title chosen for these papers.

"I am aware that it is a common notion, that, under an elective government, of very limited powers, like that of the United States, we lose that powerful spring of action which exists in the patronage of strong hereditary governments, and must proceed from the crown. I believe it is a prevalent opinion, abroad, among those who entertain the most friendly sentiments toward the American system, that we must consent to dispense with something of the favorable influence of princely and royal patronage on letters and the arts, and find our consolation in the political benefits of a republican government. It may be doubted, however, whether this view be not entirely fallacious. For, in the first place, it is by no means true that a popular government will be destitute either of the means or the disposition to exercise a liberal patronage. No government, as a government, ever did more for the Fine Arts than that of Athens.

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"It cannot but be, that the permanent operation of a free system of constitutional and representative government should be favorable to the culture of mind, because it is in conformity with that law of Nature by which mind itself is distributed. The mental energy of a people, which you propose to call out, the intellectual capacity, which is to be cultivated and improved, has been equally diffused, throughout the land, by a sterner leveller than ever marched in the van of a revolution,—the impart.al providence of God. He has planted the germs of intellect alike in the city and the country; by the beaten wayside, and in the secluded valley and solitary hamlet. Sterling native character, strength and quickness of mind, the capacity for brillant attainment, are not among the distinctions which Nature has given, exclusively, to the higher circles of life. Too often, in quiet times, and in most countries, they perish in the obscurity to which a false organization of society consigns them. And the reason why, in dangerous, convulsed, and trying times, there generally happens an extraordinary development of talent, unquestionably is, that, in such times, whatever be the nominal form of the government, necessity, for the moment, proclaims an intellectual Republic.

"What happens in a crisis of national fortune, under all governments, is, in this respect, the steady and natural operation of our political institutions. Their foundation, at last, is in dear Nature. They do not consign the greater part of the social system to torpidity and mortification. They send out a vital nerve to every member of the community, however remote, by which it is brought into living conjunction and strong sympathy with the kindred intellect of the nation. They thus encourage Nature to perfect her work, on the broadest scale. By providing systems of universal and cheap education, they multiply, indefinitely, the numbers of those to whom the path is opened, for further progress; and thus bring up remote, and otherwise unpatronized, talent into the cheerful field of competition. The practical operation of popular institutions of government provides, in innumerable ways, a demand for every species of intellectual effort, not merely within the circle of a capital, but throughout the land. In short, wherever man has been placed by Providence, endowed with rational capacities of improvement, there the genius of the Republic visits him, with a voice of encouragement and hope.

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"Our country is called, as it is, practical; but this is the element for intellectual action. No strongly marked and high toned literature, poetry, eloquence, or philosophy, ever appeared, but under the pressure of great interests, great enterprises, perilous risks, and dazzling rewards. Statesmen, and warriors, and poets, and orators, and artists, start up under one and the same excitement. They are all branches of one stock. They form, and cheer, and stimulate, and, what is worth all the rest, understand, each other; and it is as truly the sentiment of the student, in the recesses of his cell, as of the soldier in the ranks, which breathes in the exclamation,

"To all the sons of sense proclaim,
One glorious hour of *crowded life*,
Is worth an age without a name;

crowded with emotion, thought, utterance, and achievement.

* * * * * * *

"But let us examine, more carefully, the experience of former ages, and see how far their political institutions, as they have been more or less popular, have been more or less productive of intellectual excellence. When we make this examination, we shall be gratified to find, that the clear precedents are all in favor of liberty. The greatest efforts of human genius have been made where the nearest approach to free institutions has taken place. Not one ray of intellectual light shone forth, as far as we know, to cheer the long and gloomy ages of the Memphian and Babylonian despots. Not an historian, not an orator, not a poet, as has been already observed, is heard of in their annals.

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"Mark the contrast in Greece. With the first emerging of that country into the light of political liberty, the poems of Homer appear. Some centuries, alike of political confusion and literary darkness, follow, and then the great constellation of their geniuses seems to rise at once. The stormy eloquence and the deep philosophy, the impassioned drama and the grave history, were all produced for the entertainment of the "fierce democratie" of Athens.

"Here, then, the genial influence of liberty on letters is strongly put to the test. Athens was certainly a free state; free to licentiousness, free to madness. The rich were arbitrarily pillaged to defray the public expenses; the great were banished to appease the envy of their rivals; the wise sacrificed to the fury of the populace. It was a state, in short, where liberty existed, with most of the imperfections which have sometimes led the desponding to love and praise despotism. Still, however, it was for this lawless, merciless, but free people, that the most chaste and accomplished literature which the world has known, was produced.

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"No! the noble and elegant arts of Greece grew up in no Augustan age. Unknown before in the world, strangers on the Nile, and on the Euphrates, they sprang at once into life, in a region not unlike our own New England,—iron-bound, sterile, but free.

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"The Egyptian architects could erect structures, which, after three thousand years, are still standing in their uncouth, original majesty; but it was only on the barren soil of Attica, that the beautiful columns of the Parthenon and the Theseum could rest, which are standing also." (Phi Beta Kappa Oration. Cambridge, Mass., 1824. Everett's Orations, Vol. I, pages 1–44.*)

A few words in further illustration of the favoring circumstances existing in Greece for the development of Art are taken from the official lectures addressed to the students of the Royal Academy, London, nearly a century ago: †

"History informs us that if Religion and Liberty prepared a public, and spread a technic taste over all Greece, Athens and Corinth must be considered as the principal nurses of Art, without whose fostering care the general cause mentioned could not have had so decided an effect; for nothing surely contributed so much to the gradual evolution of Art, as that perpetual opportunity which they presented to the artist of public exhibition; the decoration of temples, halls, porticoes, a succession of employments equally numerous, important, and dignified; hence that emulation to gain the heights of Art; the fervour of public encouragement, the zeal and gratitude of the artists were reciprocal: Polygnotus prepared with Cimon what Phidias with Pericles established, on public taste, Essential, Characteristic, and Ideal Styles.

"Whether human nature admitted of no more, or other causes prevented a farther evolution of powers, nothing greater did arise; Polish, Elegance, and Novelty supplied Invention; here is the period of decay; the Art gradually sunk to mediocrity, and its final reward—Indifference.

"The artist and the public are ever in the strictest reciprocity: if the Arts flourished nowhere as in Greece, no other nation ever interested itself with motives so pure in their establishment and progress, or allowed them so ample a compass. As long as their march was marked with such dignity, whilst their union excited admiration, commanded attachment, and led the public, they grew, they rose; but when individually to please, the artist attempted to monopolize the interest due to Art, to abstract by novelty and to flatter the multitude, ruin followed. To prosper, the Art not only must feel itself free, it ought to reign: if it be domineered over, if it follow the dictate of Fashion or a Patron's whims, then is its dissolution at hand." [Twelfth Lecture, vol. iii, pages 41–59.]

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* Orations and Speeches on Various Occasions. By Edward Everett. Little, Brown & Co. Boston. Four volumes. Vols. I and II, 1856; III, 1870; IV, 1872.

† The Life and Writings of Henry Fuseli, Esq., M. A., R. A., keeper and professor of painting to the Royal Academy in London, member of the first class of the Academy of St. Luke at Rome. The former written, and the latter edited by John Knowles, F. R. S., his executor. London: Henry Colburn & Richard Bentley, 1831. In three volumes.

The critical knowledge and sympathetic interest in the work of their artists which characterized the citizens of the Republic of Athens, in the times of Pericles and Phidias, reappeared in the mediæval Republics of Italy; nowhere were they more clearly manifested than within the walls of Florence.

How potent and all pervading was this love of art among the people of Florence, how fully their chosen rulers realized that the works of the artists were the crown of the city and the glory of all its inhabitants, may be seen in the immunity granted to the artists. From generation to generation, in the very midst of warring factions, of revolutions and counter revolutions, of contentions, exilings, and executions, incident to the turbulent life of the tumultuous city, as Guelph or Ghibbeline, and later, Bianchi or Neri, were victorious, the artists peacefully pursued their calling; laying strong and deep the foundation walls of the new cathedral, building up the fortress pile of the Palace of the Signory, erecting the beautiful church of Sta. Maria Novella, or sinking the foundations of Sta. Croce, the church destined to become, for centuries, the mausoleum of the distinguished dead of Florence.

Six hundred years ago, the authorities of the Republic directed their architect, Arnolfo, to undertake several public buildings; and the Florence of to-day, shows in its great distinctive features, the aspect then impressed upon it by the creative mind of that one man. So lasting is art; so enduring the memory of the great artist!

Nothing so exemplifies the wonderful wealth of the country and the age in men of genius, as the fact that a century later saw Brunelleschi crowning Arnolfo's church walls with his matchless dome, while Giotto had planned and long before begun the upspringing tower, whose aerial lightness and sculptured beauty, all unfinished as it is, has never been surpassed; while other unknown artists had lifted high in air the virile tower which surmounts the Palace of the Signory. Nevertheless, although the completed charm of the architecture of the city was unseen by Arnolfo, or Giotto, who both died leaving their works unfinished, the plan and the grouping of the main buildings, which give character to the city, remain as Arnolfo designed them.

The following words, which purport to be from the edict of the Signory promulgating their order to Arnolfo to undertake the reparation of Sta. Reparata, bear witness to the place held by the arts in the hearts of the Florentines; nor if, instead of being veritable, they are but the feigned utterances attributed to their ancestors by a later generation, are they of much less value as evidence; since, in the latter event, they witness to the zeal for art ascribed by tradition to the elder generation, and evidenced by these enduring monuments.

The rival Republics of Sienna, and of Pisa, had begun their noble cathedrals, while Florence possessed, as yet, only Dante's "Bel Giovanni," the present Baptistry of the Duomo, a beautiful but small building to serve as the central church of the city. It was not for the proud citizens of this Republic, to long endure any apparent inferiority to its hostile rivals. The resolve that in its new great church Florence should outrank all other cities, breathes in every syllable of their somewhat grandiloquent words.

"Since the highest mark of prudence in a people of noble origin, is to proceed in the management of their affairs so that their magnanimity and wisdom may be evinced in their outward acts, we order Arnolfo, head master of our commune, to make a design for the restoration of Sta Reparata* in a style of magnificence which neither the industry nor power of man can surpass, that it may harmonize with the opinion of many wise persons in this city and state, who think that the commune should not engage in any enterprise unless its intention be to make the result correspond with the noblest sort of heart which is composed of the united will of many citizens."

Their exalted ideal of a Republic lives in their final words, "the noblest heart, the united will of the people."

The above quotation is given by Mr. Charles C. Perkins, in his admirable work on Tuscan Sculptors† (Vol. I, page 54).

It is first given by Del Migliore, an Italian writer of the seventeenth century, who claims to have copied it himself from the original manuscript in the archives of Florence; this assertion is questioned by some later authorities; however, as previously remarked, if it is but the invention of Migliore, it is at least good evidence of the traditions of his day as to the esteem in which the arts were held by the early Florentines.

In Mrs. Oliphant's "Makers of Florence"‡ (page 97) occurs the following quotation from a decree of the Signory:

"The Florentine Republic soaring ever above the conception of the most competent judges, desires that an edifice should be constructed so magnificent in its height and beauty that it shall surpass everything of the kind produced in the time of their greatest power by the Greeks and Romans."

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* Since known as the "Duomo" or "Sta. Maria del Fiore"—Saint Mary of the Flower—the great cathedral of the city.

† Tuscan Sculptors, their lives, works, and times, with illustrations from original drawings and photographs by Charles C. Perkins. "Als Ich Kan, Nicht als ik wil." (Dutch proverb.) In two volumes. (Quarto.) London, Longman, Green, Longman, Roberts and Green. 1864. Pp. Vol. I: lvi–267, 39 pl. Vol. II: vii–267, 6 pl.

‡ The Makers of Florence: Dante, Giotto, Savonarola; and their City. By Mrs. Oliphant. London: Macmillan & Co. 1876. Pp. 395.

In Mrs. Oliphant's book this decree is held to refer to the cathedral,—Sta. Reparata itself;—in fact, however, it refers to the Campanile, and must have been given some forty years after the decree addressed to Arnolfo.

Giotto had now (1334), as "Maestro del Opera," been put in charge of the works of the cathedral, doubtless then so well advanced towards completion that the construction of the bell tower, that indispensable adjunct to every Italian church, could safely be undertaken.*

In view of the recent completion (February, 1885) of the mighty shaft, erected to the memory of Washington, in the capital city of the United States, for which the greatest altitude of any structure on earth is claimed, and on which the cap stone was not laid till nearly forty years after the laying of the corner stone, we may surmise that this monument,— erected conjointly by individual citizens, and by the Congress of the United States, to the most eminent of the founders of the Great Republic, and purposely planned to o'ertop pyramids and cathedral spires,—was designed in a similar spirit of emulation with the works of the elder nations, as expressed by the decree of the Signory, if not, in fact, inspired by some memory of that very decree.

This monument, by the magic of its completion marvellously transformed from the seemingly hopeless ugliness of its long unfinished state to a structure of majestic beauty; the truncated, meaningless pile, taking on at last, the harmonious lines of the obelisk; its magnitude lost in the grace of its proportion, stands in its completed perfection, pure, simple, sublime. First seen, far off, a line of light against the sky, it thrills and captivates the beholder, and, on a nearer view, effectually refutes, by its upspringing lightness and majestic grandeur, the stereotyped sophistical objection of complaining critics, that, since an obelisk was a monolith of moderate height, the project of constructing a gigantic monument in the form of an obelisk, was utterly inartistic and foredoomed to failure!

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* I am indebted to the courtesy of Mr. Perkins for reference to the Italian originals of the extracts from the two decrees: Gualandi (Memoriæ Originale Italianae risguardante Le Belle Arti. Bologna, 1843), see page 102 of 4th series for the decree referring to Sta. Reparata, and, note 12 to same page, for the later decree about the Campanile. These decrees were first published in the latter part of the seventeenth century by Del Migliore in his Firenze Città Nobilissima.

Never had the sententious utterance of the Romans fuller justification; "finis coronat opus." As the statue of Washington, by Greenough, represents the apotheosis of the hero; so, this monument to Washington, is the apotheosis of the obelisk;— literally lifting the monolith to the skies.

Although but few weeks have elapsed since the placing of the cap stone, and workmen are still busy in completing the details, it is evident that an absolutely new and striking feature has been added to the hitherto familiar landscape. Midway, as it seems, between the imposing mass of the Capitol with its aspiring dome, and the lesser, but still noble façade of the mansion at Arlington with the massive columns of its lofty portico,— which, from beyond Potomac, flings back the early rays of the morning sun, or, later, sits in shadow, dark and cool, beneath its western screen of broad armed trees,—now rises the mighty shaft, dazzling in the sunlight, overtopping all lesser structures, subordinating even the great masses of stately and imposing government buildings, and linking these two, in a grander harmony than before!

So long as it was unfinished, this piled mass of stone remained but a blot in the picture, incongruous, intrusive. Art or Nature, would none of it! Year after year went by, and the unfinished pile, a melancholy instance of arrested development, but grew more and more intolerable; nor, when once again the work was undertaken, and month by month, the increasing altitude and whiter layers of the newly quarried marble, told of growth in place of stagnation, was there any gain of beauty, the ugly mass still seemed only to grow more obtrusive and inharmonious.

How, with its completion, all this has changed! Already become an essential feature of the landscape Nature seems at once to have "taken it to her heart," and as some great natural object, a mountain or a lake, it loyally responds to, and reflects, in turn, her various moods.

Sometimes the mighty mass, gradually enfolded by the rising mists, seems as unsubstantial as they; as, slowly melting into their embraces, it fades from sight! Again, in the early dawn,— where in the uncertain light the solitary shaft glimmers ghostly and gray, as if weary of the lonely watches of the slow passing night,— suddenly its uplifted summit catches the first rays of the eastern sun and flashes into life, heralding the "jocund day"! Through all the day alternate lights and shadows play upon its graceful shaft, till, at length, the slow descending sun floods with light its western side. Slowly rising higher and higher towards the very summit, where "parting day loves to linger and play," creep the evening shadows; still high up in the heavens, long after the plain below is hid in darkness, the sloping western facet flashes like a new born star!

Swinging westward and eastward, as the day goes by, like some great "ship at anchor", moved only by the flowing and ebbing of the tide, the monitory shadow of the monument traces on the dial of the earth the passing of the hours! So, day by day, this enduring object grows familiar, suiting with its changing aspects the varying moods of Nature and of man, till, by the subtile charm of association, it links itself with the lives and the affections of men.

Witnessing the wonderful transformation wrought, in this instance, simply by the completion of the design, one regrets more than ever that the later taste of the Florentines, long after the artist's death, should have rejected Giotto's plan of completing his tower by a symmetrical spire of graceful and exquisite proportions; for, since, in its truncated incompleteness, it has been for centuries held so beautiful, it is only reasonable to believe that the complete carrying out of the artist's design would have given to this wonder of the Occident, an added beauty of perfection and symmetry.

The limiting word 'occident' is used because the marvels of oriental construction still existing in India, far outrival, in wealth of material, in grandeur of proportion, in lavishness of expenditure, in grace of design, and in exquisite delicacy of ornament, the clumsier architecture of Europe. It needs but to name that world wonder, the Taj Mahal at Agra, with its marvellous dome and minarets of glistening marbles, wrought with profusion of carvings, in the erection of which, it is said, twenty thousand workmen toiled for more than twenty years; to realize that this is a greater wonder of architecture than is the beautiful and boasted tower of Florence. Between these triumphs of the Italian and the Indian builder, there is the same contrast as between the smooth, white surfaces of the simple shaft of stone in Washington, and the tinted marble mosaics of the great bell tower, with its solid lower stories enriched with rare sculptures, and the soaring upper stories pierced with high, upspringing pointed arches, with their slender, twisted shafts of stone, lending to the massive structure ærial lightness and grace.

Of course there is no room for comparison between the two structures as works of art, Giotto's tower being the consummate flower, the perfection of the art of architecture, unsurpassed and unequalled in Europe, during the five hundred years gone by since the great artist designed the exquisite structure; while the monument to Washington is simply an admirable example of the work of the engineer, the problem given being to copy, enlarging to scale, an Egyptian obelisk. There is in this no room for originality of design, or artistic invention; though in the safe uplifting of this mighty mass of stone, there were abundant opportunities for the exercise of all the resources of the scientific engineer and builder.

The fidelity of the leaders of contending parties in the state, during the existence of the Republic, to the interests of Florence as paramount to all else, shown, as already suggested in the immunity granted to the artists, long survived; and the later masters of the Tuscan state, no longer a Republic, likewise, in accordance with the wont of the earlier popular rulers of the commune, busied themselves with the cultivation of the arts and the adornment of the city.

Our present purpose is, however, by no means to trace the course of art in Florence further than to show that the true source of that glory of art, which gave to the City of the Lily so proud an eminence in history, and which makes the small Tuscan town still one of the notable cities of the world, was in the Republic,—in the People, who made and ruled that early commonwealth.

In like manner, whenever and wherever the common people have had the opportunity to see great works of art continually about them, there has been on their part no lack of love for, or knowledge of the arts.

The "Democracy of Art" springs from the Democracy of the People!

THE CHURCH AS PATRON OF ART.

The Church the guardian of learning through the chaotic centuries between the fall of the Roman Empire and the rise of Modern Europe—Church building in the Middle Ages—How the Church made use of Art and thus incidentally extended a knowledge and love of Art among the people—The proclamation by the Church of the value of each individual soul; sowed broadcast the fructifying seeds of democracy—The Crusades, and the building of Cathedrals, taught the people of all classes to work together for common ends, and the Modern Era had dawned—The rise of architecture in France—The modern governmental Art galleries a result of the changed relations between Church and State—That these galleries belong to the people, not to their temporary rulers, is generally recognized—The increase and more general diffusion of wealth in modern times, tends to the popularization of Art—Effect of this more general knowledge of Art on the development of artistic industries—Why the title of "The Democracy of Art" was chosen for these papers—The interests of Art, the proper concern of the people—A general diffusion of the knowledge and love of Art, desirable throughout the United States.

The service rendered to humanity, and to modern civilization, by the Church, through all the chaotic centuries subsequent to the successive irruptions of the northern barbarians, whose innumerable and savage hordes, falling like avalanches from the impending Alps upon the plains of Italy, overthrew the debased legionaries of the crumbling empire of Rome, and submerged, "in one red burial blent," the arts, the learning, and the civilization of antiquity, is a thrice-told tale. It has been incidentally so tersely and eloquently restated by a recent writer,—himself a high authority upon all matters relating to the history of art,—and the fact that the Church proclaimed and sustained the innate dignity and worth of every human soul, thus making democracy a possibility, is so well brought out, that the following paragraphs are here quoted as germane to our topic; since, were there no democracy of the people it is evident there could be no "Democracy of Art." There is no question but that the doctrine of the equality of all men in the presence of the Church, the equal humbling of all men beneath the Papal authority,—as, in other words, it might perhaps with truth be stated,—which was constantly inculcated and enforced by the Church, was a potent force in the uplifting of the common people; until the mediæval Republics, and Free Cities, wherein was developed the self-imposed rule of the people, as opposed to the arbitrary rule of irresponsible despots, and tyrannical nobles, became possible.

Whatever may have been the subsequent influence of the Church in limiting the horizon of human thought and in suppressing free investigation, or however much to be deplored, no fair-minded student of history can fail to acknowledge the immense debt due, from the civilization of to-day, to the Ark that, for a thousand years, bore safe across the abyss the precious truths which have been the inspiration of humanity; for the civilization of the West, of Europe and of America, however much it may have departed from its ideal, is, nevertheless, a civilization based upon, and having its origin in, the common acceptance of the Christian faith by the nations.

After tracing the slow beginnings of the new order of civilization arising from the ruins of the Roman empire, and calling attention to the fact that a common adherence to the christian faith made possible a truer union between the diverse nations than had been known to former ages, despite differences of language, customs and origin, our author says:

* "This essential and characteristic feature of the modern world, this main distinction between ancient and modern civilization, finds its clearest and most brilliant expression in the art of architecture from the eleventh to the thirteenth century. The motives which inspired the great buildings of this period, the principles which underlay their forms, the general character of the forms themselves, were, in their essential nature, the same throughout Western Europe, from Italy to England. The differences in the works of different lands are but local and external varieties. This intrinsic similarity of spirit gives unity to the history of the art, and makes it practicable to treat even a fragment of it, such as that of church building, not merely as a study of separate edifices, but as a clear and brilliant illustration of the general conditions of society, and especially of its moral and intellectual dispositions.

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"Among the arts, the one that has alike the closest and the widest relations to the life of a people — to its wants, habits, and culture — and which gives the fullest and most exact expression to its moral disposition, its imagination, and its intelligence, is that of architecture. Its history during the Dark Ages had been analogous to that of language. * * * But as the condition of society slowly changed for the better the improvement found manifestation in architecture even earlier than in literature. The growing sense of perpetuity in the life of the community promoted the revival of permanent and monumental building. * * *

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* Historical Studies of Church Building in the Middle Ages: Venice, Siena, Florence, by Charles Eliot Norton. New York, Harper & Brothers, Franklin Square. 1880. pp. 331.

"It was especially in the building of churches that the impulse for expression in architecture displayed itself, for it was in the Church that the faith of the community took visible form. The two motives which have been most effective in the production of noble human works—religion and local affection and pride—united to stimulate energies that had long been suppressed. Either alone or in combination, these two most powerful principles of action were alike existent in their highest force. The nature of mediæval society cannot be understood, the meaning and character of a mediæval cathedral will not be comprehended, the devotion and sacrifices of the builders of churches in city and village, in desert places and on mountain tops, unless the imagination represent the force and constancy of religious motives in a rude society, and the commanding position which the Church then occupied towards the world as the recognized representative of the Divine government, and the authoritative expounder of the Divine will. The lawlessness and rapine prevalent during the Dark Ages, the oppression of the weak, the misery of the poor, the uncertainty of life and possession among all classes, the contrast between the actual state of society and the conceptions of the kingdom of heaven, of which the church was the visible though imperfect type, brought all men to her doors.

"In the midst of darkness and confusion and dread, the ideal Church—and it is by ideal and fanciful conceptions that men of imperfectly trained intelligence are apt to be most powerfully and permanently affected—presented herself as a harbor of refuge from the storms of the world, as the image of the city of God, whose walls were a sure defence. While all else was unstable and changeful, she, with her unbroken tradition and her uninterrupted services, vindicated the principle of order and the moral continuity of the race.

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"But, besides all this, the Church was the great popular institution of the Middle Ages, cheering and protecting the poor and friendless; the teacher, the healer, the feeder of the "little people of God." The services of monastic and secular clergy alike, their offices of faith, charity, and labor in the field and the hovel, in the school and the hospital, as well as in the church, were for centuries the chief witnesses of the spirit of human brotherhood, and of the one essential doctrine of Christianity. In times when lord and serf were farthest apart, when the villain had no rights but those of the beasts which perish, the Church read the parable of Dives and Lazarus, and declared the equality of man in the presence of God. * * * It was not strange, then, that when, towards the close of the tenth century, in various parts of Europe, the sense of increasing civil order and security was distinctly felt, one of the first signs of this improvement was a general zeal for the building of churches—a work of piety to which all, poor and rich, weak and strong, alike could contribute, and in the merits of which all could have a share. * * *

"Of these new churches, a great number were those of abbeys and monasteries. The inestimable services which, during the most troubled times, the religious orders had rendered to society, by maintaining the standard of self-discipline, of obedience, of humility and charity; by cherishing the faint and almost expiring coals of letters and learning and the arts; by the shelter and immunity which they afforded not only to their own brethren, but to the poor people settled on their lands; by their well-directed labor on the soil and in the mechanic arts, as well as by the powerful influence of their example as centres of orderly life—all these services had been rewarded by the increase of their possessions and their power. Exemptions and privileges, the donations and bequests of the pious and the penitent, had enriched the abbeys and monasteries in all parts of Europe, and had extended their domains till they included a vast portion of the land.

"The original churches of the monasteries, which had been for the most part humble, but sufficient for their early needs, were little befitting their increased size, dignity, and wealth. The time had come for the building of churches which should correspond to these new conditions, and the arts which had long found shelter and nurture in the cloister were to repay the debt manyfold. * * * Many of the new designs were on such a scale as to require for their execution the toil and the contributions of more than one generation of believers. The work was aided by imperial subsidies, by episcopal privileges and indulgences, by gifts from the episcopal revenues. The massive piles rose with grandeur above the clustering roofs at their feet, and threw their broad shadows, like a protecting mantle, over city or hamlet. * * * Enduring monuments of the emotions and sentiments to which their builders sought to give expression, as well as of the intelligence and the art with which the zeal of the community was served."

Noting the fact that elsewhere church building was largely in the hands of the upper clergy, our author remarks that in Italy church building was more a matter of the citizens.

"It was mainly the expression of the piety of the citizens of towns in which wealth was accumulating, and of the spirit of a community animated with a sense of independence and of strength, and becoming confident of perpetuity. The new cathedral in an Italian city was the witness of civic as well as of religious devotion, of pride and of patriotism consecrated by piety. It was also the sign of the favor of Heaven in the bestowal of the prosperity of which it gave evidence. * * *

"In Italy, where the tradition of building on a great scale had never completely perished, the power of original design and of skilful execution of arcitectural works displayed itself as soon as the new impulse of church building was strongly felt. The Italian builders—or, more strictly, the Tuscan builders—possessed a sense of dignity of proportion and of elegance of decoration such as was nowhere else displayed. The ancient, inextinguishable genius of Etruria shone out once more with preëminent brightness. The Duomo of Fiesole, the exquisite Church of San Miniato al Monte near Florence, the Duomo at Pisa, are examples of the work of the Tuscan architects of the eleventh century. In other countries the designs did not lack in grandeur, but they were less noble in proportions, less refined in ornament, and less beautiful, if not less impressive, in effect. Everywhere the art showed itself capable of meeting the demand upon it for structures that should embody in permanent form the fervid spirit of the time. The education of the cloister had prepared artists competent for the work which was required, while others sprang from among the laity, trained by the discipline of familiar industries. * * * The builder was at once artist and man of science, and one knows not which to admire most—the imagination in the design, or the invention and intelligence in the accomplishment of the work.

"Never did the varied thoughts, the complex sentiments, the multiplied fancies and emotions of a sensitive, active, and passionate age, find such complete, such superb expression as within the hundred and fifty years from 1150 to 1300; for the building of church or cathedral had now become not only the work of religious zeal or patriotic enthusiasm, but also of poetic inspiration. The sense of beauty, which had been weak, through want of nurture, during the Dark Ages before the eleventh century, had gradually grown stronger and stronger, till at length the love of beauty had become a controlling motive of expression, and gave direction to the moral and intellectual energies called into play by religious or patriotic sentiment. * * * Its moral import was, indeed, his chief concern; and his work at its best illustrates, with peculiar simplicity and distinctness, the truth which has determined the character of all supreme artistic production—that in the highest forms of human expression morality and beauty are inseparable.

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"The field for the exercise of the arts, thus inspired with creative impulse, was by no means limited to the Church. Architecture, sculpture, and painting were employed in secular no less than in religious buildings, in the castle of the noble and in the house of the burgher.

"The spirit of art penetrated every department of life, and gave form to all the products of design. There is a solidarity in the arts; they do not flourish in isolated independence. * * *

"But it was in the great church edifice that many arts were united, as in no other work, in a single joint and indivisible product of their highest energies. From the pavement rich with mosaic of tile or marble, or inlaid with the sepulchral slabs of those who in life had knelt upon it, up to the cross that gleamed on the airy summit of the central spire, each separate feature, instinct with the life of art, contributed to the organic unity of the consummate masterpiece of creative imagination. Religious enthusiasm, patriotic pride, the strongest sentiments of the community, the deepest feelings of each individual, found here their most poetic expression."

It must be remembered, also, that from the first, the direct result of this church patronage, was to deepen and broaden the influence of art, by making the works of art objects of love and of interest to all the people; for, under the sanction of the Church, the impressions thus made by the sacred, familiar, and loved objects of art, were, by the subtile influence of association, insensibly inwrought into every important event of their lives, and blent with their holiest emotions.

They saw always before their eyes, the sacred pictures of Virgin, or Saint, smiling benignantly, from above their altars, upon the kneeling worshippers at the shrine; they beheld the glowing radiance of the lofty windows, wherein were blazoned in jewelled colors of undying splendor the shining forms of saints and angels, prophets and apostles; they looked upon the appealing suffering depicted in crucifixions, suffering so varied, so real, and so human, that to every heart there must come an hour when there shall awaken the answering sympathy of a kindred sorrow; while, ever, on entering the sacred precincts during the hours of service, the incomer saw first, above and beyond the throngs of worshippers, the carved, begemmed and glittering high altar, with its costly white draperies of embroidery and laces, gleaming from afar with the soft light of the burning candles, while odorous clouds of incense rose, wafted from the censers; or, stealing in, in sorrow and solitude for an hour of prayer or meditation, where the ever open doors of the church invite, the suppliant fancied in the dim religious light, a sweeter smile on the face of the loving Virgin, a tenderer look of pity from the agonizing Christ.

All these varied impressions appealing in turn to the humblest, tenderest, most pitiful, most loving emotions of the human heart, were caught up and swept along by the resistless billowy surges of sound poured out from the great organ; pealing through the aisles in triumphant Te Deums, or, appalling with the menacing sounds of the Dies Iræ; gladdening with the mellow music of wedding marches, or saddening by the tender sound of sobbing requiems. In the tall campanile were clustered the chiming bells, that, day by day, called idle noble, busy craftsman and toiling peasant, to prayer or praise; and, on fit occasion, gave with joyous peals of riotous sound full throated vent to the gladness of the people; or, with angry clangor warned of danger, and with solemn tolling wailed disaster; till the bells became in very truth the voice of the people, and were a prime object of their interest and pride. Upon the bells themselves, were lavished the subtilest skill of artisan and artist, while the bell towers have stood for centuries, in proud witness of the care and the art given to their erection, monuments alike of the skill and the affection of their builders.

It is easy to see, by contrast, the powerful and direct influence of the Church in those early centuries, not only upon the lives of individuals, but upon the habits, customs and development of the life of the commune. Like the player on the organ, the Church had then her hands upon all the keys and stops of human life; and that life was shaped at her pleasure. Her blessing and her ban were then alike efficacious.

To-day, whether for good or evil, the Church as an organization stands outside of practical life. With the final triumph of the principle of universal liberty of belief, the rule of the Church was relegated to the spiritual realm. Rome knows now no temporal rule, has little standing in the councils of state, in the halls of judgment, in the chambers of legislation.

Such being the case it is imperative, if we would have any just conception of the influence of the early church patronage upon the development of art, that we should endeavor to realize, in some degree, the influence of the Church in that time, upon all the affairs of life; for so, only, can we hope to understand the importance and meaning of this influence upon art.

In addition to this direct emotional influence of the Church upon individuals, which we have endeavored to suggest, there was also another constant influence most potent in disseminating a love and knowledge of art among all the people, resulting from this church patronage; since, in the noble architecture and splendid adornments of the cathedrals, churches, and chapels, the people had always before their eyes the works of the greatest masters in all the arts, while in these works they took a lively interest. Every citizen felt a pride that the cathedral church of his city should not be outranked in splendor by that of any other city; a like emulation was felt in regard to their parish churches and in a favorite chapel or shrine by the particular worshippers,—so keen observation and comparison, and the most effective criticism, continually stimulated local artists.

The result of the popular interest in the work of the artists, thus developed, was seen on such an occasion as the placing of the new picture of the Madonna, by Cimabue, in the Church of Sta. Maria Novella, in Florence; when the painting, borne from the artist's studio to the church, was accompanied by a triumphal procession of delighted people who made such manifestation of their joy, that long after, that quarter of the town through which they passed was known as "Il Borgo Allegri"—the "joyful," or "happy," "quarter" or "suburb."

Nor was this a solitary instance, or peculiar to Florence, since, in like manner, some years later, as is told in Mr. Norton's charming work on Mediæval Church Building, from which I have already drawn so freely, in the rival Republic of Siena, the people of that city thus welcomed the placing of an altar piece, by Duccio, chief of the Sienese painters, on the high altar of the Duomo. "It was on the 9th of June, 1310, that this 'the most beautiful picture that ever was seen or made, and that cost more than three thousand golden florins,' as the chronicler Tura del Grasso reports, was carried from the workshop of the artist to the cathedral. The day was a festival for the Sienese. Another chronicler, whose name is not known, but whose work is preserved in manuscript in the Communal Library of Siena, gives an account of the celebration. He says, 'At this time the altar piece for the high altar was finished, and the picture which was called the "Madonna with the Large Eyes," or Our Lady of Grace, that now hangs over the altar of St. Boniface, was taken down. Now this Our Lady was she who had hearkened to the people of Siena when the Florentines were routed at Monte Aperto, and her place was changed because the new one was made, which is far more beautiful and devout and larger, and is painted on the back with the stories of the Old and New Testament. And on the day that it was carried to the Duomo the shops were shut, and the bishop conducted a great and devout company of priests and friars in solemn procession, accompanied by the nine signiors, and all the officers of the commune, and all the people, and one after another the worthiest with lighted candles in their hands took places near the picture, and behind came the women and children with great devotion. And they accompanied the said picture up to the Duomo, making the procession around the Campo, as is the custom, all the bells ringing joyously, out of reverence for so noble a picture as is this.'"

Our author gives an interesting description of this picture, upon which the chief painter of the Republic was employed for two years, and of its subsequent history and dismemberment when, after hanging in its place of honor for more than two centuries, it was finally removed to give place to a bronze baldichino, in the debased taste of that later day; while the several paintings which went to make up the great altar piece were separated, but, fortunately, were carefully kept on the walls of the cathedral, so that they remain in a fair state of preservation.

If additional proof of the innate underlying democracy of art is sought, it may be found in the history of the origin and development of Gothic Art in France, during the twelvth and thirteenth centuries, briefly referred to in an historical résumé by M. Viollet-Le-Duc in his brilliant discourses on Architecture.* (See pages 237–241, American edition.)

The Benedictine Monks of Cluny, a body of enlightened and cultured men, constantly recruited from the better elements of the almost chaotic society of that era, had, as early as the tenth century, begun to develop a definite style of architecture, adapted to monastic and religious uses;—a new "order," the "monastic Romanesque," flexible and elastic, equally adapted to magnificent cathedral church or to humblest monastery chapel. The learned and skilful monks drew the plans, designed the ornaments, and directed the building; the stone cutting and masonry being done by laymen. These workmen, becoming in time well skilled in the art of building, gradually grew conscious of their power; formed themselves into a guild; jealously guarded admittance to their ranks; became the brotherhood of Free Masons; and, finally, wholly emancipated themselves from the rule of the monks.

Throwing aside the traditional ornamental forms of the cloister, these free builders, seeking for ornament for their structures, carved in stone the common field flowers, the tremulous leaves and swaying branches of the trees, the twining tendrils of the vines, which they saw, with their wide open artist eyes, as they went strolling through the meadows, the vineyards and the forest,—nor did they forget the tiny birds and the squirrels among the branches; while the familiar forms and faces of their fellows, as seen in the market place and the streets, (they never failed to satirize their former masters, the monks, in some grim jest of carven stone) were to be found, here and there, a bit of real human life, set amid the mythical forms of "Gorgons and Hydras and Chimeras dire" and of demons, griffins, and dragons, of wildest mediæval imagination; while the squeaking mouse and predatory rat were sure to be detected somewhere, amid the intricacies of carven ornament that swept, in lavish profusion, over the great wall spaces, arches and recesses, of the vast interior. Without, around and above the great arched entrances, the sombre crucifixions cut in high relief, and the formal rows of sculptured saints and angels, told the religious purposes of the building; but within, the living forms of nature, the familiar aspects of their daily life, gave a homely welcome to the peasants and burghers who knelt at the altars and thronged the aisles.

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* Discourses on Architecture by Eugène Emmanuel Viollet-Le-Duc, architect, author of the "Dictionary of Architecture," etc., etc. Translated, with an introductory essay by Henry Van Brunt, Fellow American Institute of Architects. Illustrated with plates and wood cuts. James R. Osgood & Co., Boston, 1875. pp. xviii, 517.

No longer was architecture limited to the buildings of the Church; the architects, now civic and self-ruling, built as readily for noble, prince, or burgher, as for mitred bishop, or lordly abbot; while the civic halls of the towns and free cities began to rival church and monastery in their extent and architecture. So the art of architecture gravitated from the monastery to the market place. Ceasing to be only the servant of the monks, it had become a fellow workman with the people; and a distinctive national architecture had sprung into being in France, as early as the thirteenth century:—an architecture no longer distinctively monastic, or feudal, but an architecture sprung from the people, an outcome of the life of the people, and therefore, vital, and adapted to all their needs and wants; were it cathedral, town hall, castle, or fortress,—palace of prince or home of burgher.

This Gallic architecture native to France, long incorrectly termed Gothic and credited to Germany,—furnishes, in its origin and development, a most striking illustration of the true democracy of all art; which, if it have not the roots of its being in the life of the people, has itself no life, but is a mere sapless tradition,—the veriest eidolon of art, shadowy, inconsequent, and barren.

The following passages taken from an interesting article,* on the famous Cathedral Church of Paris, written some years since by an American artist, give a vivid picture of the church building of France, during that wonderful mediæval upspringing of Gothic architecture. Our previous quotations on mediæval church building having had reference more particularly, though by no means solely, to the movements in Italy, these are taken, as aiding to a more complete view of the topic.

"The grand cathedrals were simultaneously begun in the rich cities of France in what was called at the time the royal domain. During the twelfth century the people exhibited an extraordinary political movement for consolidation, and of emancipation from local powers. They ranged themselves under the large ideas of religion and monarchy. Led by the bishops, stimulated by the monks, instructed by the architects, they erected the cathedrals as visible types of something more mighty than barons, lords, and counts. They created in a grand effort of enthusiasm religious monuments and national edifices. It was from the union of all the forces of France of the twelfth century that the cathedrals were projected. No human work was ever more grandly nourished or more boldly conceived.

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*Notre Dame and the Advent of Gothic Architecture, by Eugene Benson. Atlantic Magazine, September, 1868.

"To-day we have marvellous agents for the rapid and sure communication of peoples and of thoughts; then they made great sanctuaries for each stricken soul, and visible proofs of the power of religious faith.

"In the cathedrals that raised their grave and sculptured wall over the castles of dukes and barons to humble them, over the houses of the poor to console them, all the facts, dreams, and superstitions of their life in the Dark Ages were embodied.

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"And from what a society this constructive art grew! from what a society these forms were evolved!—at the moment when light was quickening the intelligence, and the instinct of brotherhood was moving the hearts of populations, fresh from the long marches and common sentiments of the Crusades, warm from that union for a sacred idea, bringing back from the Orient souvenirs of an older and more opulent life.

"In that burning land of color and light they had seen vast and impressive forms, Pagan temples, rich and beautiful. The impressionable mind and fervid heart of the Frank was amazed and delighted by the superb spectacle of Constantinople. After his pilgrimages through the wilderness and over the mountains, he looked upon the proudest and most dazzling city of the Orient. His recollections of France, a dark and cloudy land compared with the East, had nothing equal to what he saw at that moment. His native city, Paris or Orleans or Rheims or Troyes, was dark and poor with heavy Roman forms or more primitive types of building. His own land had nothing to equal the Greek and Oriental temples, and gardens, and circuses, and mosques; the groves, where the rose, the sycamore, the cypress, mingled their forms and colors; a splendid union of the rich and barbaric of the East with the simple and pure types of Greece. His religion, his faith, his God, his priesthood, in the lowlands of his country, were represented by a grave, gloomy, formal style of edifice. He had left his cities, having the feudal character of grim castles and grave monasteries, to find cities full of temples and mosques, decorated with color and adorned with gold. He came from the East with ideas and inspirations. He could not import the color or the atmosphere of the Orient, but he had received his impulse; his mind had been started out of tradition, out of monotony, out of the oppression of habit. He was prepared to create.

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"The experience of the Crusades had put into action the whole mind of the epoch, and initiated the people into a democratic, a social life. The isolated and brutal existence of the feudal lord had been invaded; the serf, in becoming a soldier and a tradesman, had become a brother and a democrat, and was fitted to work on a grand scale. Thought had dawned with action. Travel had taught and liberated the monastic workers.

"To emulate the splendor of the cities he had seen, to memorialize his faith, to enshrine his religion in forms grander than all the pretensions of temporal power about him, he began to build upon the ruins of Pagan temples, and to enlarge the old basilicas which held his altar. He began to graft upon grave Roman forms a new type.

"He could not have the luminous Orient for a background to his spires and pinnacles; he could not have the delicate minaret that defined itself always against a deep-toned and clear sky. Under his humid and gray clouds he must make the form more salient and the decoration less delicate. He must not depend upon the fine accentuation of form, and the clear note of color, about a portal, which the Oriental could oppose to a broad flat surface for the sun to make dazzling with light. He must use *shadows* as the Oriental availed himself of *sunshine*. So he cut his portals deeper; he made his decoration more vigorous and scattered; he multiplied forms; he avoided flat surfaces,—which the Greek, the Persian, and the Moor always availed themselves of, and with which they produced such fine effects.

"The Gothic architect pursued the opposite aim. He made stones blossom into leaves and flowers, and crowded niches and arches with images of the animal life he recollected or imagined. Therefore you see the Asiatic elephant and hippopotamus, when you expect only purely Occidental forms and Christian symbols.

"Soon his cathedral became his idolatry, his artistic means; and, before the fourteenth century, the priest had only the altar: the rest belonged to the people and to the artist.

"The workmen who had been trained under the protection of abbeys were at hand to design and execute.

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"Thus was prepared the means for those marvellous cathedrals which, in the short space of fifty years reached their full perfection; thus was produced an art that was superbly illustrated through three succeeding centuries, and then perished. 'Developed with an incredible rapidity,' writes Viollet-Le-Duc, 'it [the Gothic] arrived at its apogee fifty years after its first essays.'

"The cathedral was the grand popular monument of the Middle Ages. It was not only the place of prayer, and the abode of God, but the centre of intellectual movement, the storehouse of all art traditions and all human knowledge. What we place in the cabinets of museums our fathers entrusted to the treasury of churches; what we seek in books they went and read in living characters upon the chiselling of gates or the paintings of windows. This is why, by the very side of religions and moral allegories, we find in such number upon the walls of our cathedrals those calendars, those botanical and zoölogical illustrations, those details about trades, those warnings about hygiene, which composed an encyclopædia for the use and within the reach of all.

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"The sculptor of the period, like the writer for the press to-day, had the liberty of expression,—perhaps more liberty than is granted by a million voiced Public Opinion to the writer in America. Then the bishop was the publisher; the people, subscribers; the architect, the sculptor, the painter, the jeweller and mason, fellow workers.

"The sculptor gave full play to his hand, and the designer license to his pencil. In windows, upon façades, in capitals, on galleries, upon towers, they rudely sketched or exquisitely elaborated their ideas. The walls became the utterance of their emancipation. They proclaimed liberty. They revealed that the most formal of arts, the most severe science of form, architecture, could appropriate a new beauty, and express a new life, in giving itself to the people and the artist. And how the mediæval sculptor rioted in his new found liberty! He chiselled the stone edifice as though it were a casket of silver or a box of ivory for his mistress. 'Sometimes,' writes Victor Hugo, 'he made a portal or a façade present a symbolic sense absolutely foreign to the worship, and foreign to the church."

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"Then in France was seen during three centuries the full development of an architecture neither Greek, nor Roman, nor Oriental. But a new idea, capable of unlimited expansion, subject to the law of liberty, and not to that of the arbitrary; corresponding with the mind of its epoch, expressive of its character; corresponding especially with the Northern as distinguished from the Hellenic and the Roman mind; corresponding with the old Gallic spirit that had been cradled in dark forests, amid shadows and the brief glory of sunset; cradled amid the high branching pines and bold armed oaks, which had given to it its primitive temple, vast, shadowy, and richly toned. In the cathedral we see the beautiful result of its necessities and its experience.

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"It can no longer be contested that the Gothic is an art purely French. It was born with French nationality, it was the work of communities stimulated by the clergy and directed by laymen, and represents the great social and intellectual movement of the Middle Ages. In the largest expression, it was the creation of the old Gallic genius which, audacious, inventive, rapid, has left the most poetic and impressive embodiment of the religious sentiment of Christendom. It was the last effort to make a temple large enough for humanity. The story of the building of a cathedral reads like a fairy tale. The people came from the provinces environing that of a cathedral like volunteers of a war for liberty. As they had gone pell mell to the Holy Land, so they went pell mell to build the cathedrals. They are blessed by the bishop; they go through the land recruiting their forces, chanting hymns, with floating banners; they rally about the walls of a church or the quarry, and labor for no other pay than bread.

"In the solemn nights of the twelfth century, what a spectacle in the French provinces! By the light of torches the lofty walls of cathedrals rose as by day; they were thronged with enthusiastic workmen in the night as in the dawn. What energy of enthusiasm! All classes, vassals and nobles, men of fraternities and communities, dragged the stones from the quarry. Each one gave himself to the work he understood best. The fervor, the fanaticism of building was so great, that the women threw under the foundation stones gold and jewels, saying, 'Thy walls, O God, shall be of precious stones.'

"The monks' learning and the people's force made the cathedrals. The shafts rose, slender like reeds, and were bound in strength; the spire swam in light; the tall windows were webbed with semblances of branch and vine; the arches were adorned by carved flowers; the doors were flanked by sculptured figures. The whole made a living, expressive, elegant, aspiring form, distinct, admirable, and unlike all other great historic forms. We shall never behold a repetition of the great work of the Middle Ages. It is an accomplished fact, and the constructive and artistic genius of man seeks another embodiment."

In suggesting the influence of the Orient upon the crusading Franks, which is done with a charming artistic discrimination, our artist writer gives prominence to causes which, long since recognized as profoundly affecting in many ways the development of the christian nations of Western Europe, could hardly fail to influence those most impressionable of men, the artists.

It is of interest to observe how Mr. Benson recognizes the artistic way in which the returned Frank,—deprived of the powerful aid of sunshine, and color, and an atmosphere devoid of moisture, which were the potent allies of the Eastern builder;—frankly accepts shadow for sunshine,—mists and down pouring rains in place of cloudless skies,—and so solves his architectural problem as successfully, by means diametrically opposite.

It is a lesson of what a living art is capable. Here is no slavish copying, no lifeless imitation, but a ready adaptation of means to conditions imposed, in order to achieve an excellence and effect as pronounced and as delightful as the effects which piqued the rivalry and stimulated the effort, though totally unlike them. This is what art should do. This is what true artists always will do, and this is why there need be no monotony in art.

When Mr. Benson, who sees with the eye of a painter, portrays the very natural result of the impressions made upon travellers from a colder clime when first beholding the brilliance of the glowing East, where each day sees in the sapphire dome of the cloudless sky, Emerson's blue vase, filled with fire, he is dealing with effects upon, not with technicalities of, architecture. M. Viollet-Le-Duc however, the late distinguished architect and archæologist, stoutly controverts the popular error, as he conceives it to be, to which Mr. Benson has given adherence; proving, as he believes, from peculiarities in the plans and methods of building the walls of that era, that, instead of showing an increased tendency immediately after the Crusades, to follow the Oriental builders in their construction, the French builders then began to diverge. But the two, though writing of architecture, by no means refer to the same matter; and it is perfectly easy to accede to the correctness of M. Viollet-Le-Duc's demonstrations, while continuing to believe that the crusades produced just the effect Mr. Benson attributes to them;—the stimulus of the imagination, an awakening of the love of beauty, variety, lightness, and splendor, in architecture. A new conception, sprung from the memories of the "Golden Horn," of the possible grandeur and glory of cities. An ideal, awakened by the sight of those Eastern splendors, to be realized, under darker skies and Northern stars, by far other means, as our word painter has so eloquently portrayed. M. Viollet-Le-Duc himself, however, by no means rejects, or discredits, the influence of the Eastern builders upon the development of French architecture. He only traces the beginnings of this influence further into the past, and believes it to have already given a definite impulse to the rising art before the time of the first Crusade. All of which may well be true, and if so, the marvellously sudden upspringing of a full grown art of architecture, quickened by the enthusiasm of the returned Crusaders, becomes even more comprehensible.

In the present era when whatever may be the absolute power of the Church in its influence upon the lives of individuals or over the destinies of nations, it is no longer the sole, or even relatively the chief educator of the people; nor can it be said, in view of the formal bouquets of artificial flowers often piled upon its shrines, and of the excess and extravagance of tasteless and obtrusive ornament common to the later churches of one of its chief orders, that the Church is infallible in matters of Art.

The revival of learning, the wider prevalence of a knowledge of the classics, the development of the naturalistic school, the growing separation of Church and State, even where a nominal connection remained, have led by degrees, to the entire revolution which characterizes the modern era; in which, in most European countries, it is to the civil government and not to the ecclesiastical, that art now turns for protection and patronage.

In the great governmental galleries are now collected most of the *chef-d'œuvres* of these great masters of the Middle Ages, which were once the pride of altar and shrine, of cathedral and convent. Protestant and Catholic countries alike seek to increase the stores of art works in their state museums, both by obtaining good specimens of these "old masters," and by securing notable works of living artists. That these art museums, created and supported by public funds, really belong to the people, and not to their rulers, is becoming more generally recognized, and every facility of public access compatible with the safety of the art treasures they contain is accorded. Opportunities for seeing and studying the grandest works of art, are thus given to the poorest citizen. The private galleries of princes and nobles are also in Europe generally easily accessible; so that, whatever may be the political status of the citizen in those countries, he may become a denizen at will of the Commune of Art.

There must then exist in art something essentially democratic, since, in all eras, under all forms of government, the prosperity of art is to be measured by its nearness to the hearts of the people. All great art appeals confidently to universal human instincts, faiths, emotions; and to all such art, humanity grandly responds.

If it were conceded that the patronage and development of a country's art was a matter only for the rulers of the country, and that, for this reason art had not in other lands usually been the concern of the people; it would still remain true that in a democratic Republic, such as is ours, in which, theoretically and practically, the people are the rulers, the encouragement of the arts, if they are to be encouraged at all, must, of necessity, be the peculiar care of the people; so that here if nowhere else, should be realized the "Democracy" of Art.

In European countries not only have the works of art been thus collected in museums and galleries for public enjoyment, but the numbers of private owners of works of art have constantly increased; while, in the United States, there is little question but that the works already possessed by private citizens, far exceed in number and value, those owned either by state or municipal governments, or by incorporated museums.

How this general diffusion of art knowledge in European countries affects the industries and the prosperity of a people, and what an important factor, art, in its application to industries, has become in the economic polity of the nations, it is the purpose of these essays to set forth; and, in addition to show how essential and how feasible it is for the people of these United States to secure for themselves similar advantages to those which are so strenuously sought by the civilized nations of Europe.

In further disproof that art is essentially and always aristocratic in its tendencies, it might be urged that this impression arose very naturally in the early days of mediæval art, because, then, the wealth of the Western world was largely concentrated in the hands of the kings, the great nobles, and the Church; so that, as a matter of course, they were then the chief patrons of art. When, later, the free cities and municipalities arose, they, in their turn, became also art patrons; as still witness the great civic buildings of that era. Now, in our own days, wealth is no longer confined to these classes, but is more widely distributed among the people, and in all countries there are many private individuals who can, if they choose, employ their wealth in the purchase of works of art. In this way Art has ever a tendency to become more and more a possession of the people, and in that sense "democratic." It was not, however, with reference even to this aspect of the case, that the title "The Democracy of Art" was chosen for these papers. It was taken to express the truth that Art, in its varied relations and comprehensive meaning, is, literally, the concern of "the people"; and it is to demonstrate this that these volumes have been written and compiled.

It is in the noblest and highest sense, that Art concerns the people, since there is no more subtile or powerful influence for the elevation or the degradation of a people. Art, like literature, being merely a mode of expression, may, within its limitations, be used to express the highest truths, the sublimest aspirations, or, it may be debased into a mere pandering to selfish vanity and ostentation, or, still worse, may fall into the lowest depths of degradation in the service of sensuality and vice.

When art is consecrated to the service of religion, or, inspired by patriotism, is devoted to the ennobling of the ideal of city or country, to the perpetuation of the memory of great deeds, and of noble citizens; when the people take pride in the adornment, by art, of their public buildings, and in the added beauty of their domestic dwellings, then, since of necessity there can be no noble art without noble lives, no high ideals expressed in building, or statue, or painting, without a preexistent high ideal in the mind of the artist, it follows that, in order to insure the existence of noble art in any community, there must be a lifting up of the life of that community; just as, when, in a nation's need, the people rise to higher levels of patriotic devotion; for true art, noble art, is always serious, earnest, and purposeful.

"Not from a vain or shallow thought
His awful Jove young Phidias brought."

Lavish expenditure alone will not secure good art, selfish ostentation cannot command it at will. It is not sold every market day by the square yard, nor is it purchasable by the pound, though, in some notable recent instances in New York City hostleries, great sums of money have been expended, apparently under this erroneous impression;—

with no result, except to induce on the part of the beholder a depressing sense of oppression under the weight of meaningless profusion, and vulgar display; than which, nothing is further removed from true art.

These instances, as well as some few contemporary examples of similar ostentation on the part of private individuals, forcibly recall the following utterance by Fuseli, professor of painting in the Royal Academy, London, spoken in one of his lectures to students, nearly a hundred years ago: "Private patronage, however commendable or liberal, can no more supply the want of general encouragement, than the conservatories and hot-beds of the rich, the want of a fertile soil or genial climate. Luxury in times of taste keeps up execution in proportion as it saps the dignity and moral principle of the Art: gold is the motive of its exertions, and nothing that ennobles man was ever produced by gold. When Nero transported the Pontic Apollo to the golden house, and furnished the colossal shoulders of the god with his own head, Sculpture lent her hand to legitimate the sacrilege: why should Painting be supposed to have been more squeamish when applied to, to decorate the apartments of his pleasures and the cabinet of Poppea with Milesian pollutions, or the attitudes of Elephantis?"—(Lecture XII.)

It is, then, the concern of the people that their art be of noble quality; since noble artists cannot be predicated of an ignoble people. We have seen how, in the compact cities of the Italian Republics, the whole people took interest in art, giving freely of their private possessions and public revenues, to the adornment of their public buildings; for, in those later, as in the elder Republics, all the people made the erection and adornment of the public buildings a matter of intense personal concern. In the cities of the United States, in some instances at least, the citizens have far other emotions in relation to the public buildings, than those of pride or joy. The question arises whether, if they had individually taken such an interest as the citizens of Siena or Florence, took in the building of *their* civic buildings, and their churches; there would have been the opportunity for such scandals as have made some American city halls, and court houses, a synonym for civic robbery and public plunder.

It must be an intelligent interest in art that is taken by the public, to be of any worth; and it is to secure that general intelligence concerning art in all its phases, that the movement towards universal and practical elementary training in art in all the schools of the people, has been begun; and is here chronicled and urged. If, at times, it may seem that the subject is, in these papers, advocated upon a low level, and with a view chiefly to its economic uses, it should be remembered that this does not necessarily arise from lack of appreciation of the higher qualities, and diviner purposes of art; but is due to the fact that in a country which is, for the most part, barren of great works of art, and among a people so long of necessity largely unaware of the myriad possibilities of art in adding to the beauty, decorum, and delight of human existence; there is need to lay broad and deep the foundations of that general, elementary knowledge, upon which alone a true national appreciation of art can be developed. To secure the popular interest necessary for the introduction of this new training in the schools, it is imperative that the direct pecuniary value of this new knowledge, as well as its practicability, should be demonstrated.

An attempt has been made, in these preliminary papers, to consider the subject in its various phases; in its economic uses as applied to the industries, in its educational value, and in its æsthetic influence. Although often repeated in subsequent pages, it may not be inappropriate to state at the outset, that the term Art is here used in a most comprehensive sense; and that, as so used, it includes all that is comprised under the head of "Industrial Art," "Decorative Art," and "The Fine Arts" or "High Art."

"Drawing in the public schools,—every child taught to draw," is the fundamental text, on which are based all the several discourses in these volumes. So universal is it hoped to make the knowledge, the usefulness, and the enjoyment of art, in these United States! Thus will be shown the true "Democracy of Art."

THE TERM "ART" CONSIDERED.

The capacity for Art a distinctive characteristic of man — Man, a creative producing intelligence — A definition of Art — High Art — Decorative Art — Industrial Art — The Imagination an essential element of High Art — The like quality of Imagination characteristic of the great discoverers in Science — Technique in Art; its proper value — Art that is only technical, has no power of appeal to the people — To say that only artists are capable of criticising and properly appreciating a work of Art, is to condemn that work — Art that needs an interpreter is confessedly a failure — Undue exaltation of technique disastrous to Art and to Literature — Attention to technical details the duty of pupils — The true artist shows his art by selection of subjects, as well as by skill in use of material — The term Art, wide embracing — The Goldsmith of the Middle Ages — The decadence of Art signalized by its divorce from Industry — Mutual injury thus resulting to Artists and People — Art must keep close to Nature — The poet's statement of this need — The place and functions of the Arts in the Republic — Modern Science reunites Art to Industry — National Prosperity now largely dependent upon Artistic Industries — The Arts must find a welcome at the firesides of the people — Popular love and knowledge of Art can be created, by definite educational efforts — Success of systematic Industrial Art Education in foreign countries — Tribute to the late Sir Henry Cole, foremost in inciting and promoting the Industrial Art Educational movement in England — Similar training desirable and feasible throughout the United States — The relation between the Education and the Arts and Industries of a People.

Man may be defined as a thinking, talking, and constructing animal. That other animals may partake in some degree of this faculty of thought, which was long denied, is becoming somewhat generally admitted since the evidence has accumulated of actions by animals,—as the horse, the dog, the elephant,—apparently based upon memory, and the results of cogitation upon former experiences. Nevertheless, not even the most enthusiastic evolutionist will deny that as yet the development of man, as a creature capable of ratiocination, is far in advance of that of all other beings known to the naturalist.

In articulate speech, with all that it implies, man stands confessedly superior. Although he shares the constructive faculty with insects, the bee, the wasp, the ant, as well as with some of the animals, as the beaver, and with the birds as a class, and although some of each of these classes of animated beings, by the exquisite perfection of their constructions challenge the superiority of human skill, yet in the versatility of his wide embracing powers, man still holds the place, accorded to him in that sublime history of the creation recorded in Genesis, as the ruler and governor of all created beings.

It is however in his capacity for Art, that man is most completely differentiated from the rest of the animated creation.

In all the instances to which we have referred in which some of the lower orders of beings are seen to possess in a lesser degree some of the characteristic faculties of man, the exercise of the given faculty occurs only within the narrowest limits of individual needs and experience. The evidences of the action of memory and of reason based on memory are strictly individual. The constructive faculty, for example, is exercised only for making the dwelling of the individual or community, and communication of intelligence by sound or touch, is apparently limited to individual needs; though in his ignorance of the vocal or silent language of beasts, birds and insects, it may well become man to be modest in his statements concerning the possessors of these unknown tongues; for *non constat* that these creatures, also, do not among themselves, poetize, philosophize, and moralize!

One fact though *is* clear, and that is that there are no erections or other evidences of the making, or of the conception by other creatures, of anything analogous to those productions evoked by the abstract idealizing, or by the emotional powers of the human intellect; and known as works of art. By man's capacity for art is to be understood not only the ability to create works of art but also that which is far more common and quite as essential, namely, the ability to recognize, appreciate and enjoy such creations. This power of appreciation seems to be essentially an attribute of man alone, for, though some animals are indeed curiously sensitive to musical sounds, there is no evidence that they are similarly susceptible to the influence of form or color, nor will it be in any way pretended that they can have an intellectual comprehension of music any more than of painting or statuary.*

The appreciation of art is then a distinctive possible characteristic of the human being, just as the possible creative power of the artist, is a distinctive quality of the individual.

Thought is an attribute and function of the human intellect. Impressions made upon the senses are taken cognizance of, classified, correlated, assimilated; and in due time their results reproduced.

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* The question arises as to whether there is any traceable connection between the acquired hereditary colorings and adornments of the lower orders of life, and the acquired hereditary susceptibilities and artistic preferences of the earliest races of men?

The human being, the "ego," that which we call the mind for want of a better phrase, that unseen elusive something which all recognize as the essential man himself,—in contrast with which, all exterior phenomena are extraneous and subsidiary,—that "Psyche," "Anima," Spirit, Soul, named differently by Theology and Philosophy, though its existence is nominally denied by the materialist, is yet commonly recognized as the one existent fact in a universe of uncertainties. It is that power without which the animal existence of man, that which is common to all animated nature, might apparently be continued; as well as the accumulation of recorded phenomena of nature, called science; but, without which, Art were forever impossible; because Art in its very nature is the outcome of the highest, the creative intelligence.

The existence of Art is, therefore, outside of revelation, the strongest proof of the existence of something other than the animal man.

Man is a creative, productive, as well as a receptive being. In the processes of thought to which we have alluded, something of the individual is added to the impressions received through the senses, so that, when again given out, they have acquired some quality not before possessed; this is, sometimes, a very precious acquisition,—so precious that the world measures the value of all human production by the amount of thought it contains. Now it is just that personal addition which constitutes the art quality. It is that which makes the work of the great artists so individual that no one could mistake the works of Phidias and Michael Angelo, of Raphael and Titian. In other words the art quality is the addition of the human element, that which makes up the personal equation of the individual artist. This is why art is not necessarily a synonym for beauty in the sense of prettiness,—it may be ugly even, in that sense.*

Art is the expression, of some idea, object, or emotion, as conceived, perceived, or felt, by the artist, with such power, as to reproduce in others the same thoughts and feelings which the artist had himself.

It may be a very ugly fact or a very painful emotion, but if he sees clearly and makes us see as he saw, or feel as he felt, his work in so far as he does this, possesses the true art quality.

While the artist is free to choose the form of art he prefers and the medium for conveying his impressions; once chosen, he is bound to use them in accordance with their limitations; for, in this world of matter each form of art and every material is subject to its own laws, and while it is true that the spirit of art is intangible and ethereal, it is also true that it can only make its appeal by becoming embodied, and must submit loyally to the conditions it has chosen.*

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* "40. Those who have assigned to the plastic arts beauty, strictly so called, as the ultimate end of imitation, have circumscribed the whole by a part."—(Fuseli's Aphorisms.)

. While thus considering Art in its broad relations to the intellectual, and the emotional nature of man, it may be well also to include those familiar phases by means of which Art enters intimately into the daily intercourse of men's lives; sits with them by the fireside, walks with them in the market place, is found in the workshop, in the field, a companion in their brief hours of play, a helper through long days of toil, gladdener of life, sweetener of labor, consoler of sorrow.

This democratic damsel,

> "A creature not too wise or good
> For human nature's daily food,"

is called "Industrial" Art, and is merely the goddess descending as of old among men. Art which in its so called higher functions is either merely an end in itself, producing pleasure, or the means of exciting emotion, as the medium of expression, and has no direct relation to use, needs not always to abide on those ethereal heights; but may, with equal fitness, come to dwell familiarly with men.

Industrial art, then, is merely the application of the principles and methods of art to objects of practical utility, in which the uses of the utensil, material, or object, must be primarily regarded; and to which, the artistic qualities must be subsidiary. In this wedding of Use to Beauty, there is no inevitable disparity; for true democracy seeks not to drag down the highest, but only to lift up the lowest. So Art, entering the world of work is not thereby degraded but, stooping to the lowly, lifts them to her own high level; giving to homely uses divine significance. Cheerfully accepting the limitations imposed by needs of use, she links them to divinest harmonies;—"raising a mortal to the skies."

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*I take pleasure in inserting the following concise and discriminative definition of art given to me as the outcome of a recent friendly conversation concerning this prolific topic:

"Art is an expression of emotions excited in capable persons by acts, facts, objects and subjects; this expression varies according to the vehicle that is used, conforming to the laws inherent in the chosen vehicle, but using them to reproduce emotional, instead of practical results. A battle may inspire a musician, a sculptor, a painter, a poet, and an orator, to simultaneous artistic activity. The resulting Te Deum, statue or relievo, painting, poem and eulogy, are equally ART, if the producers are equal artists."—C. W.

If we keep in mind our definition of Art, in which the essential quality was declared to be the power of inducing in others, the impressions and emotions experienced by the artist; we shall find that the varied, often contradictory impressions and emotions, felt by different individuals in viewing a given work of art, which at first seems almost inexplicable, is easy of explanation, and referable in each instance to the same cause; varying in degree with the greater or less ability of the individual to comprehend both the message of the artist and the technicalities of the art. For every work of art may possess a twofold interest and power of appeal; though, often, given individuals are incapable of appreciating more than one, and even that one but incompletely.

There is first, the thought, imagination or emotion of the artist; his message, to convey which he has availed himself of the medium of a given art. Secondly there are the evidences of technical skill, shown in the manipulation of the art processes used, capable in themselves, without regard to the message conveyed, of producing powerful impressions. The power of the first, the appeal to the intellect or the feelings, depends primarily upon the innate genius, imagination, conception, of the artist, helped or hindered by his greater or less mastery of his mediums. This is the common ground on which all the arts meet, the spiritual bond which unites all artists; the "inspiration" of the artist.

This, in its supremest development, is at once the highest, subtilest, noblest, all comprehending, expression of the human intellect; so recognized through all the ages. The Book of Job, the Hebrew Psalms, Homer, Æschylus, Euripides, Plato, Demosthenes, Ictinus, Phidias, Apelles, Virgil, Cicero, Dante, Giotto, Michael Angelo, Raphael, Lionardo, Titian, Velasquez, Shakespeare, Milton, Beethoven, Béranger, Burns, and Victor Hugo, furnish striking manifestations of the possession of this power in the exercise of the several arts of eloquence, poetry, drama, philosophy, oratory, architecture, sculpture, painting, music and song.

These various examples taken from many lands, ages and tongues, possess in common, more or less of that universality, that power of appealing to man as man, irrespective of the accidents of time or place, which confers earthly immortality. It is noteworthy also that in most of these instances, the technique approaches perfection, the medium is transparent to the thought, so there is unity of effect.

The same great powers of accurate observation and wide sweeping generalization, applied to the problems presented by the investigation of natural phenomena, have likewise, immortalized the great discoverers in the realms of science, those great poets of Nature;—poets, by virtue of their Imagination. For, however much smaller men of science, usefully busied in gathering together their isolated facts, may affect to despise this gift of power,—it has nevertheless guided the great explorers over the boundless oceans of the universe. To Galileo, to Kepler, to Newton, to Franklin, to Goethe, to Darwin, there was the same clear insight, the same bold flight, the same sure conclusion, that mark the works of the divinest poets, the grandest artists, the profoundest philosophers.

The second quality of a work of art to which we referred is called its technique, and relates both to the management of the medium or material used, and to the skill shown in solving certain problems of light and shade, of color and perspective, of imitation of flesh, of textures, of all matters in short relating to the mechanical part of the art. Now, in all these there are opportunities for the display of the most exquisite dexterity; there may be some qualities shown which even approach to genius, in the production of great effects by means apparently the simplest, which in all art is one of the surest characteristics, or ear marks of genius, and so, there is a thoroughly rational pleasure to be derived from the exhibitions of these qualities; with this very serious drawback that to enable one to fully appreciate and enjoy these excellencies, there must be such a knowledge of art processes, as is not usually possessed by any but artists, who knowing the difficulties presented can best appreciate the skill, ingenuity or patience, expended in overcoming them.

This latter fact has led some artists or professional art connoisseurs, to advance a theory that only artists are competent, or should be allowed, to criticise works of art; which, though it seems to have met with a certain degree of acceptance by thoughtless people, is most fatal to the claims of art in the presumed interests of which it is advanced; for it hardly needs the wisdom of a Solomon to comprehend that any art which is so technical that it can only be properly understood by an artist—a fellow-craftsman, adept in all the mystery of the guild, is self condemned, so far as to any claims it may make for public appreciation.

If it have only excellence of technique it is of no more consequence, or import to humanity,—if as much,—as the flying leaps of the athlete over the grouped elephants and camels of the menagerie; indeed there may be an exhibition of splendid pluck in this latter feat of skill, a courage admirable in itself; while in such an art there can be nothing beyond a trick of pencil, brush or chisel, idle and inconsequent.

It is of course only of works of art which claim to belong to High Art, that these words are written. In the realm of Decorative Art other laws have rule; for the decorative artist has no special message of his own to deliver. His art is an end in itself. Its results are attained by the use of pleasing forms and harmonies of color. Its purpose is to add to the sum of human happiness by thus producing pleasurable sensations. It is a charming and delightful phase of art akin to the dance and the song, in which rhythmic harmonies appeal to eye and ear. It is not of that high order of inspiration of which we have been speaking.

Art is a language. The value of language is its ability to convey meaning; therefore the rudest forms of language, if they are only pregnant with thought, far surpass all the elegancies of speech, if the latter are devoid of meaning. It follows that a man may be a painter, skilful in the manipulation of the brush and in the imitation of forms and textures, but if he is lacking the insight of the true artist, and has no ability to see and seize on that which is of universal interest, has no subtiler meaning to express, no other message to convey, than that which first meets the careless eye, then all his dexterity and skill is as fruitless and foolish as idle chatter, and he himself is but a superior kind of photographic machine. His work may, indeed, possess a certain scientific value as an accurate transcript of objects, a careful record of details of light and color, but it must inevitably fail of all the higher qualities of art; for to be a true artist is not to be simply a photographic machine, a mere indiscriminate copyist of any and all facts which may chance to fall under his observation. Nor are the technical truths of form and color, light and shade, the only ones about which he need to concern himself; though this has been loudly asserted by some modern schools. These matters, unquestionably essential, are but the orthography and syntax of art, just as important to the artist, and no more so, than a like knowledge of his materials is to the author. They belong to the elementary knowledge, which it is assumed that every one claiming to be artist or author will possess, as a matter of course; the lack of which is fatal to any claim to rank among the masters, but the possession of which, even in absolute perfection, gives no assurance of mastership.

It is an ill day for art, or for literature, when undue prominence is given to the mere technique of either. Never, in literature, was more extreme precision in rhyme, in metre, in the *form* of poetry insisted on, than by the editors and critics of to-day, a finicalness which threatens to emasculate literature.

There are now, it is true, graceful rhymers both in England and America, with facility and expertness in rivalling by their adroit imitations the rhymed whimsicalities and metrical conceits of a bygone era of artifice; a fashion in literature akin to that in architecture which goes by the name of Queen Anne, and in which minute details of ornament usurp the grander prerogatives of Style. Admitting the skill and adroitness of these confessed imitators, the question arises whether, after all, such tricks and affectations were worthy of imitation; for, clever as they are in the originals and in the copy, they are not art but artifice.

Not in such quaint or borrowed garb are wont to come the bards who bring the diviner gifts of poesy to man. In the higher realms of art it is ever true that "the letter killeth, but the spirit giveth life." What profiteth it if the grammar be faultless, the metre musical, the imitation of wood, or straw, or stubble photographic, if the soul of art is wanting; if the poet has no word, the painter no thought, which appeals to the nobler nature of man? While we look, or listen, we admit the technical excellence, the admirable gymnastics, the realistic imitation, but, despite all these desirable qualities, we miss the ineffable charm, the "soul" which is "wanting there," and coldly repeat, changing one word in the line of a great singer, "'Tis Art, but living Art no more!"

Small minds are wont to measure results by difficulties overcome. They exaggerate the importance of means, and methods, and so remain unconscious of the absence of the one essential quality, lacking which all else is worthless.

To young pupils, correctness in spelling and grammar, precision of technique are properly considered matters of the first importance; but, to give undue prominence to these in after life, argues an absence of the creative powers which is absolutely fatal to any excellence in art, or literature. Nothing more surely indicates an age of decadence.

So far from thinking the choice of subject a matter of indifference I believe an essential quality of the true artist to lie in his fine discrimination in the selection of subjects for the exercise of his art; it is in this choice, that the quality and power of his genius is revealed; for it is his province, his peculiar function, to thus discriminate, to discover and point out to others, beauties commonly unseen by careless eyes; nor, save for some serious and sufficient reason, should he ever exaggerate or point out, deformities. It should rather be his purpose and delight to charm the eye, as well as to enlighten the understanding; for "beauty is truth, truth beauty," and in general the creation of works of beauty, is the sign manual of the true artist, as was the perfect round of Giotto's O.

What I would emphasize is, that it is precisely that which is personal to the individual, which makes him an "artist";—that is, one who possesses the power of awakening in others, the emotions he himself has felt.

It will be seen by this definition how wide embracing the term "art" may be,—how it may comprise within its limits any possible expressions or creations of man, and on the other hand, what multitudes of expressions and creations, if tested by this standard, must be forever cast out of its kingdom. The humblest utensil may be full of art while the most pretentious building may be utterly devoid of it. In this connection, thinking of some humble conscientious craftsman, artist or artisan, imbued with the true spirit of art, and working with loving, patient toil, the lines of sweet, quaint George Herbert come to mind as he sings how:

"A servant with this clause
  Makes drudgery divine:
Who sweeps a room, as for thy laws
  Makes that and the action fine!"

In other lands, this art expression of the worker is recognized in whatever material he may choose to work; but, in this country the art quality added by the mind of the producer, has not been generally recognized, except when it expresses itself by means of spoken or written language, as in the case of the orator or the poet.

Unfortunately for Art, and for the People,—since the interests of both are indissolubly blended,—in the decadence which all too soon obscured the glorious renaissance of art in the Middle Ages, there ensued a divorce between the Industrial Arts and the Fine Arts; so that the artists,—that is, the painters and sculptors,—esteeming themselves as in some sort a wholly superior class of persons, set themselves up as an aristocracy and affected to scorn the humbler workers in those arts which minister to the material necessities of man. It was not for these would-be "masters",—busied with great historical paintings, or absorbed in their endeavors to fix upon the canvas, or in marble, the beauty of their ideal visions,—to condescend to such vulgar works of utility.

It thus happened that the arts which busied themselves with utensils,—the arts of the table and the household,—were rapidly debased; since, deprived of the inspiration and example of the works of the great artists of the Middle Ages, those masters of the whole domain of Art, the jewellers, the gold and silver smiths, the weavers, the potters, the cabinet-makers and even the blacksmiths, forgot their cunning; they no longer made works worthy of the palaces of princes, as they had done, when, in the little shops on the Ponte Vecchio, Ghirlandajo and Cellini wrought beside them at the bench; and when Raphael and Michael Angelo made patterns for the weavers, the potters and the silversmiths.

Time was, in those far away centuries, when the art of the goldsmith was more precious than the gold upon which it was lavished, when the blacksmith so shaped his iron that it was costlier than silver, and the weaver wove tapestries whose threads were so inwrought with the thought of the great masters, that they are still treasured in the palaces of kings. In those halcyon days, artists, artificers and artisans, were in unison in their common love for, and fellowship in, Art.

Mr. Perkins thus describes the manner in which the great architects and artists of the Middle Ages were trained at the goldsmith's bench for their later career: "It is important to bear in mind that the word goldsmith in its mediæval acceptation did not mean simply a worker in gold, but one who fashioned all metals, whether precious or of baser quality, bestowing upon all a like amount of conscientious labor without reference to their intrinsic value, upon the principle that the work ennobled the material and not the material the work. His art, which when looked at from its true point of view is an epitome of all the arts of design, demanded a thorough knowledge of each, for in fashioning altars, reliquaries, and caskets, the goldsmith used architecture; in chiselling their ornaments, sculpture; and in coloring their enamels, painting. Thus having exercised each art in miniature he was fitted to pursue any one of them with great chance of success, if, as constantly happened, he did so after leaving the workshop. Brunelleschi, Luca della Robbia, Ghiberti, Verocchio, Pollajuolo, and many others, whose lives have been passed in review in these pages, were educated as goldsmiths and owed much of their accuracy of hand and wonderful delicacy of execution to their early training."—(Tuscan Sculptors, Vol. II, pages 113–114.)

It was far otherwise in the later days of decadence, for in thus separating themselves into a selfish guild, these later artists shut themselves out of the love and sympathy of the common people, without which, no virile art can long survive; on the other hand the people, who were no longer surrounded by examples of good art in their daily life, soon lost, not only their interest in, but their capacity to judge of, works of art;—they were no longer competent to criticise, they no longer cared for art, or artists; since the latter, on their part, no longer made appeal to the sympathies of the people but sought only to pander to the vitiated tastes of their aristocratic patrons; consequently the artists, having voluntarily isolated themselves from the great body of their fellowmen, lived in an unreal world in which their art, at once mannered and fantastic, or, abstract and ideal, soon forgot nature and lost its power to appeal to human sympathy.

Some of the highest triumphs of this academic and artificial art were, perhaps, seen in the paintings of David, the French classicist, which were the wonder of his circle of admirers, but were as remote from the sympathies of most of the living men and women of the France of his day, as were the times of the Romans, the incidents of whose history they coldly sought to celebrate. Making their appeal only to the intellect of a limited class, they awoke no response in the popular heart; for the same reason, they fail to touch the hearts, or arouse the admiration, of later generations.

How surely, in these musical lines from "Keramos," our own poet expresses the essential conditions of all enduring Art:

"He is the greatest artist, then,
Whether of pencil or of pen,
Who follows Nature. Never man,
As artist or as artisan,
Pursuing his own fantasies,
Can touch the human heart, or please,
Or satisfy our nobler needs,
As he who sets his willing feet
In Nature's foot prints, light and fleet,
And follows fearless where she leads."

Literature had fallen into a similar rut of artificiality, authors wrote for a coterie, either of pedants or of courtiers; human nature was ignored, and the interest of a clique, or a school, alone appealed to.

Rousseau in France, followed by Victor Hugo, who gave the *coup de grâce* to the pseudo classicism of French dramatic art, and in England Fielding and Scott, Burns and Wordsworth, each in his own way, spoke the pregnant words that brought men back to nature; while the birth throes which made an independent nation of the American Colonies, followed by the terrors of the French Revolution, shattered existing institutions and ideas, so that the worth of man as a human being, irrespective of the accidents of birth, began to be acknowledged. In the recognition of this seminal truth lay the hope of the revival of a genuine art, but before this could be, there was much to be effected.

It was an era of flux and experiment. Not only were the people arousing to a comprehension of Human Rights and to a questioning of the validity of the claims of Privilege, but, in the new enfranchisement of the human intellect, man boldly sought to learn the secrets of Nature, and Modern Science arose!

As one result, new industries were speedily created. Science means exactness, and the industries evolved by the discoveries of science, demanded a similar exactness in the workers; hence the need of technical training, of special education, both for the would-be scientific investigator, and for those seeking the new employments.

The need of Art followed close upon the founding of the new industries, for the love of beauty is inherent in man's nature. Now the new-found truth of the worth of individual man, followed by the discoveries which made possible the development of new industries which effected such economies that conveniences and luxuries, formerly only possible to the wealthy, were brought within reach of the whole people, while many inventions and products that had never before existed, but which have added appreciably to the comforts of life, were also made common; curiously enough, brought about conditions which have already in a measure effected, and which promise in the near future to effect in a far greater degree,—the reunion of Art and Industry.

Our age is thus witnessing the enlargement of the boundaries of the domain of Art. Again in Europe as in Art's golden ages, the master thinks it not beneath him to design for craftsman, artificer or artisan; nor, if need be, does he shrink from working out his own ideas in any suitable material; no longer content, as was too long the custom, to work only in a solitary branch of art. To-day, emulous of the splendid versatility of the great artists of the middle ages, the painter models;

the sculptor paints; the poet designs wall papers; another, is content to entrust the memory of his splendid genius, his exquisite fancies, his delicate touch, to the furnace of the potter; and the name of "Solon" is now as famed in England as it once was at Sèvres.

A like willingness on the part of some artists to employ their skill in application to industries is shown in the United States, and is a most encouraging assurance of the coming art progress in America. In this connection the names of La Farge, Coleman, Tiffany, and "The Associated Artists" of New York, will at once occur to most readers. In painted glass, in all material for interior decoration, in admirable embroideries, in exquisite and new art fabrics of silk, woollen and cotton, and in the design of artistic wall papers, the skill, taste, and art, of these artists have been triumphantly displayed.

It was in France, where the arts, both the Fine Arts and the arts as applied to industries, have long been intelligently and assiduously fostered by the government, that this new phase,—which seems to be but a revival of the methods common to the best periods of Art, was earliest seen; but it was in England,—whose Rulers and whose People were startled by the unwelcome revelation of the World's Fair in 1851—that the equality of men in their capacity for acquiring an elementary knowledge of the arts as applied to industry, was first demonstrated on a large scale. That all can be taught to draw, that some will thereby develop into artists, that many are thereby fitted to become skilful workers in artistic industries; and that, by these instrumentalities, the artistic manufactures of a people have been wonderfully improved and developed, has been shown with each succeeding year.

It is from the example of both France and England, that we may best learn of what value the arts may be to this Republic, and what is their proper place in the economy of the state.

No nation has been acknowledged great, or long survived in the love and reverence of mankind, which has not given birth and fame, to great artists;—poets, architects, sculptors, painters or composers. No one can safely predict when and where the genius, which alone makes possible the great artist, will appear; but, on the other hand, it will hardly be denied that the general culture of a people in these arts, furnishes the best surroundings for the prosperous development of such a genius.

How Art ennobles the history of a people, how it affects their relations to other nations, and how it adorns the surroundings and refines the manners of daily life was well and concisely stated by Fuseli in the following words: "Such is the influence of the plastic Arts on society, on manners, sentiments, the commodities and the ornaments of life, that we think ourselves generally entitled to form our estimate of times and nations by its standard. As our homage attends those whose patronage reared them to a state of efflorescence or maturity, so we pass with neglect, or pursue with contempt, the age or race which want of culture or of opportunity averted from developing symptoms of a similar attachment.

"A genuine perception of Beauty is the highest degree of education, the ultimate polish of man; the master-key of the mind, it makes us better than we were before. Elevated or charmed by the contemplation of superior works of Art, our mind passes from the images themselves to their authors, and from them to the race which reared the powers that furnish us with models of imitation or multiply our pleasures.

"This inward sense is supported by exterior motives in contact with a far greater part of society, whom wants and commerce connect with the Arts; for nations pay or receive tribute in proportion as their technic sense exerts itself or slumbers. Whatever is commodious, amene, or useful depends in a great measure on the Arts: dress, furniture, and habitation owe to their breath what they can boast of grace, propriety, or shape: they teach Elegance to finish what Necessity invented, and make us enamored of our wants.

"This benign influence infallibly spreads or diminishes in proportion as its original source, a sense of genuine Beauty, flows from an ample or a scanty vein, in a clear or turbid stream. As Taste is adulterated or sinks, Ornament takes a meagre, clumsy, barbarous, ludicrous, or meretricious form; Affectation dictates; Simplicity and Elegance are loaded; Interest vanishes: in a short time Necessity alone remains, and Novelty with Error go hand in hand." (Twelfth Lecture, page 41, Vol. III.)*

The place and function of the arts in the Republic is not only to be found in the making of public art galleries and museums, and to be shown in adorning the capitols and other public buildings, of the States and of the Nation, where indeed the noblest examples of all the arts should be seen; nor in the parks and public places where men congregate, and where statues, fountains, and other so-called ornamental works, possessing more or less of art as it may happen, will some how get themselves set up; but it is above all, in the homes and by the firesides of the people, that the arts must make *their* home; since to-day in the new development of the industries of the world, the arts, once again as of old enter into all the works made by man.

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* The Life and Writings of Henry Fuseli, Esq., M. A. R. A., etc. In three volumes.

If the Republic, then, by the culture of its citizens and the quality of their manufactures, is to take and keep equal rank with the leading nations of the civilized world, a love for Art and the knowledge of its true principles, with skill to apply them in all industries, must become well nigh universal.

This diffusion of the knowledge and love of Art, can only be effected, by the definite and persistent training of the people.

How such a result was finally achieved in Great Britain, largely through the efforts of a single individual,—more fortunate, though not more earnest than his predecessor, Haydon,*—is incidentally shown in a memorial article concerning one of the most distinguished of the modern workers in this field of human activity; whose name has long been "familiar as a household word," to all interested in the modern movements for the re-creation of artistic industries, and whose recent decease is widely lamented.

In a notice of the public work of the late Sir Henry Cole, by Mr. Newton Price [see Nature for February 5, 1885], occur the following statements as to the result of efforts undertaken by him, for the dissemination of a knowledge of art and science among the English people. To Sir Henry Cole is justly attributed much of the success of the Great Exhibition of 1851; while the successful founding and development, both of the "South Kensington Museum," and of the "Science and Art Department," are conceded as the triumphant results of the far-seeing public spirit, and the indomitable energy and perseverance, of this remarkable man. Of his methods in diffusing this art training Mr. Price says: * * * "Soon the land was covered with schools of art and science classes, to the astonishment of the statesmen who supposed that they had been holding the reins. As a result, the English people were converted from Philistinism, and became ardent lovers of art. In the poorest cottages may now be found vessels of artistic design and other delights of the eye, as cheap as the ugly patterns which obtained everywhere except in the houses of the richest a few years ago. In the recent debates in the French Parliament on the proposed renewal of the commercial treaty with England, the French minister stated that when that treaty was first made, in 1859, France supplied England with almost all its objects of art, but that in the interval, owing to the work of the schools of art, the tables had been turned, and it was now England that was pouring these articles into France. It was *ce terrible Cole* who had stuck to his work, undeterred by abuse and opposition, till he had redeemed England from its dependence on the ingenuity of France."

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* For an account of the lifelong efforts made by Haydon, for the dissemination of Art Knowledge in Great Britain, see Appendix A, Paper VI.

While the above extract bears testimony to the benefit derived from such training by the manufacturing interests of a country, the following paragraphs well illustrate what is here implied by the term "The Democracy of Art": * * * "He pictured an England whose toilers, admitted to participate in the benefits of civilization, found relief in refined enjoyments from the depression resulting from the minute division of labor into dreary monotonous tasks without variety. * * * Like the great English reformer who vowed that he would make things plain for a ploughman which had been reserved for the understanding of a cultivated few, Henry Cole lived to make the poor sharers in the best benefits of modern civilization. He set himself to make common those refining agencies which tend to cheer and sweeten the dull monotony of excessive toil and hopeless poverty. Hence his efforts to stimulate the creative faculties of the nation, to make known our art treasures, to cheapen specimens of art and to call out the dormant sense of delight in the beautiful, so as to reach and raise men through their higher faculties of enjoyment. He who sets himself to 'level up' and to destroy privileges by making them common will have enemies enough in his time. Probably Sir Henry Cole had his full share of abuse and misrepresentation. But, unlike many of the world's benefactors, he lived to see much good fruit resultig from his pertinacious toil for the public good, and he will not soon be forgotten by a grateful country."

In these preliminary essays, an attempt is made to ascertain the causes that underlie the material prosperity of nations, so that, before proceeding with the account of the sporadic experiments of the past, or the well-planned and successful efforts initiated in Massachusetts, in 1870; and with the history and detailed account of the various Institutions for training in Industrial, and in High Art now existing in the United States, which largely make up the contents of these volumes; it may be possible briefly to survey the present condition of the arts and manufactures in the civilized countries of the world and to ascertain the methods by which these countries have attained their surpassing excellence in artistic productions. It is necessary also to recognise the fact of the striking inferiority in artistic qualities of most of the manufactures produced in the United States, before 1876, and to thoughtfully consider the existing situation of the people of these United States, in their relations to foreign producers, and to each other; to mark the amazing transformation of the last quarter of a century, and the changed environments surrounding the American youth of this year of grace, as contrasted with that into which the youth of 1830, or 1860, were ushered; further, to note the present tendencies of development in this country, and from the needs of the present and the near future, to consider how the children of to-day are to be best prepared to become the citizens of to-morrow. In these preliminary suggestions much is assumed which it is believed will be found demonstrated in the succeeding chapters, or in the several appendices, which follow.

The education of the children of the people should be such as to best fit them to promote, in their turn, the welfare and prosperity of the nation. In the changes so strikingly effected by the rapidly advancing civilization of the world, it has happened, naturally enough, that the common school training, admirably adapted for the conditions for which it was designed, now fails to meet satisfactorily the new and changed conditions, and we realize how, in the words of the poet:—

"Time makes ancient good uncouth."

From the results obtained by the English and Continental governments by the systematic education of school children, and even of adult workers, in elementary industrial drawing, and, afterwards, by technical training in the application of art to various industries, the similar methods available for the use of the American people are pointed out; while the wonderful results of this special educational training of artistic workers, on a large scale, as seen in the amazing improvement of old, and development of new manufactures, amounts to a positive demonstration of the vital connection, between the education of a people, and their arts and manufactures. If this is so, political economists and statesmen, are equally interested with educators in the problem of how, with the least delay, the American people may effectually avail themselves of the advantages of the new education.

From this point of view it is hoped that the topics treated, in the opening papers grouped under this title, may not be wholly without interest.

THE TECHNICAL EDUCATION OF A PEOPLE.

England and Russia at the Centennial Exposition — Their message to American Educators, Manufacturers, and Statesmen—How a Czar re-created a national art — How a people, reconquered lost industries, and created new ones — Technical training in Industrial Art inaugurated in the Russian Strogonoff School — This training contrasted with that given to the old time apprentices — Results and methods shown by both countries — Why shall America not adopt the "methods"? — "Doulton Ware and Lambeth Faience"; — the new products of English industry resulting from its new alliance with art —American inferiority in nearly all art industries was plainly seen at the Centennial — Philadelphia in 1876 gave to America, the lesson Hyde Park taught England in 1851 — England at once expended money liberally for the art education of her people, seeking to improve her manufactures and regain her lost prestige — Let the United States do likewise — Elementary drawing in all public schools in the United States, and the establishing of special schools for supplementary technical training in mechanic arts, both possible and desirable.

Two of the foreign collections shown in the Main Building of the "Centennial" Exposition, held in Philadelphia in 1876, had a peculiar attraction for all interested in the then somewhat novel project of introducing into the public schools of the United States the study of drawing, with the purpose of promoting the industrial arts; for the reason that, in each of these two countries, industrial art training had been adopted with a definite purpose and this exhibition furnished to Americans the first opportunity for an impartial judgment as to the results of that experiment. It need hardly be stated to those who saw this Exposition that these two countries were England and Russia. In the exhibitions shown by the former were to be seen the practical results of a general movement for improving the manufactures of a whole people, undertaken from a conviction of inferiority which had been forced upon all observers who visited the first modern great "World's Fair" held in Hyde Park in 1851. In the Russian department was to be seen, on the other hand, the result of the definite effort made under the patronage of the Czar, to re-create a national art.

The old Byzantine craftsmen had wrought in all the precious metals with wondrous skill, but the secret of their art had been for centuries hopelessly lost. In place of their quaint characteristic works in which the precious metals were with barbaric splendor all incrusted with rare gems, or teased into endless forms of beauty by an instinct as subtle as that which blends the colors in the shawls of Cashmere and tints with marvellous hues the carpets of Ispahan, there were only the clumsy shapes, which, for the past two centuries, have debased the art of the silversmiths of Germany and of England.

Carefully collecting from convent, chapel, and palace, whatever relics of the old Byzantine masters remained, the modern arts of reproduction were called on to repeat them, and they glow on the pages of the albums made by the printers of Paris, in all their original splendor of color; meanwhile, carefully studied, these works of the old workers in the precious metals proved an inspiration, and among the subjects of the Czar were found those who showed themselves worthy inheritors of the genius that had created them; and behold, a National Art, individual, characteristic and beautiful, leaps forth, a new-born Minerva, to the light.

To have thus called a people to revive its old traditions and re-create its old Art, was worthy a great ruler; to thus reconquer its past was, for the nation, a nobler conquest than is known to the art of war.

If only this great precedent might find followers! If only in Japan, China, and India, the old oriental secrets might be re-discovered, and the crude, inartistic ideas of modern Europeans discarded. If only some voice of power could persuade these Eastern Races to leave "eclecticism" and the imitation of the arts of Europe of any era, to the peoples who have no historic art. The elder nations should be well content to recover, as their richest inheritance, the old secrets of beauty once known to their race.

The Russian Department, rich and interesting in many respects, held in the works of this new born school of native art, so idiomatic and racy, an ever fresh attraction to the often returning visitor.

It was not alone by these evidences of the revival of a lost art, that the Russian exhibitions had an interest and a lesson for Americans, seeking to solve the problem of the possibilities of popular education. In the contributions sent from the Strogonoff School, were results from definite educational work, which made a profound impression; and have already borne fruit both in Europe and the United States. In this school the education of artisans was undertaken with such comprehension of the general and special instruction needed, and with such wisdom in the adaptation of means to the end proposed, that the results amount to a demonstration. It was shown that it is possible to give to boys systematic training in the use of all kinds of mechanical tools, accompanied at the same time with the necessary literary education. The graduate of this school is an accomplished artisan, familiar with the best methods and tools to be used by the workers in wood, in iron, in stone.

Instead of the haphazard knowledge of the apprentice, picked up in the shop from workmen who take little or no interest in the education of their errand boy, has been here substituted definite training by skilled masters, in which each lesson is a necessary step to the succeeding lessons; no time is wasted, no incorrect knowledge has to be unlearned; definite knowledge is substituted for the "rule of thumb," and the pupil, who as an apprentice to one trade knew nothing of any other, is taught the kind and use of tools needed in working in different materials; he is thus made "master" of all mechanical tools, instead of knowing only a single trade, and is ready to work in whatever craft work offers.

Thus it appears that while laments over the decadence of the system of apprenticeship are rife, and while the revival of the system is admitted as improbable if not wholly impossible, here is found a better way, a method by which, in a shorter time, better workmen and better citizens may be trained, than in the old way. That artisans can be thus efficiently trained is proved by the results effected by the Strogonoff School; it remains for the statesmen and educators of the United States to devise practical applications of this lesson* in the training of American youths.

The lessons taught by the Russian exhibition were, that definite instruction in the fine arts and definite instruction in the mechanic arts, can both be successfully given; that it is possible for a ruler, or for a community, to train both artists and artisans.

This revelation of art progress in Russia came as a surprise to most persons, while on the other hand many were eager to see and to study the results of the much praised English training. In the many attractive and varied collections shown by the exhibitors of Great Britain, there were everywhere seen the results of the intelligent efforts made by a whole people, and continued for a quarter of a century, to improve, by means of definite industrial art educational training, the manufactures and art products of the country.

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* For an interesting discussion of this project of direct technical training of boys in the mechanic arts see article on "The Apprenticeship of the Future," Appendix P, Part II.

To one familiar with their manufactures and so called art-work twenty-five years before, but who had paid no subsequent visit to England, the revelations made by the collections seen at Philadelphia were simply marvellous; for ugliness had been replaced by beauty, poverty of invention by wealth of imagination, barbarism by refinement. So great were the delightful contrasts presented between past recollections and present impressions.

Nor were the happy effects of this surprising change limited to these evidences of the gain in beauty and money value accruing to the old industries from this general adoption of definite art training; the potent and far-reaching influence of the new education, was seen in the many novel and beautiful articles, products of industries absolutely created by this industrial art education; which vindicates its claim to consideration by thus proving its power to add to the resources of a country, not only by vastly increasing the value of old, but also by thus creating new forms of wealth-producing industry.

Notable examples of these new creations were seen in the numerous specimens of the "Doulton Ware" and the "Lambeth Faience," the beautiful results of the alliance entered into between Mr. Sparkes, then, art master of the government "Lambeth Art Training School", now, in charge at South Kensington, and the Messrs. Doulton, the well known potters of Lambeth, who, before the advent of Mr. Sparkes had been only potters;—makers of useful articles, of chemical utensils and of drain pipes, into which entered no element of beauty.

In striking contrast with these homely, useful articles, which were shown in Philadelphia in great abundance, were the above mentioned art potteries shown by the same firm, in looking on which, one saw, how, under the inspiration of art, their productions had indeed

"suffered a sea change
Into something rich and strange."

The charming transformation of Cinderella, effected by the change from the ugly rags of the kitchen maid to the shining robes worn by the beautiful partner of the Prince, was not more exquisite or complete.

This triple alliance between Capital, Industry and Art, recalls that entered into, nearly a century before, between Flaxman and Josiah Wedgwood; which it resembles no less in the nature of the combination than in its charming results. Each created a new industry for the workers, and thus added a new source of revenue to the nation.

If he who causes two blades of grass to grow where only one grew before is indeed, as has been so often repeated, a benefactor to his race; what praise shall not be given to those who, at the same time provide new delights for the sense of beauty and create employment for the otherwise unemployed, by evoking from the hitherto unused stores of nature, materials for new forms of use and beauty.

No American fails to recognize this truth when applied to inventions and machinery. He realizes it if in no other way in his admiration for the vast fortunes and fame, due to their discoveries, accruing to Howe and McCormick, Morse, Edison, and Bell.

In two ways the Centennial Exhibition at Philadelphia offered important suggestions to all observers who were not blinded by ignorance or prejudice. In the first place by showing the resources of this continent, in the abundance and surpassing excellence of its natural treasures, the raw material of countless hitherto undeveloped manufactures; and secondly, by demonstrating the relative inferiority of Americans in most of the productive industries in which the fine arts enter as an important element. In reference to this aspect of the case Professor Walter Smith, the State art director, spoke as follows to the Massachusetts teachers at Worcester December 28, 1878: "No thoughtful American can have examined the two great exhibitions at Philadelphia and Paris, as I have done, without feeling that his country does not show well at such displays in comparison with many European countries. It used to be the monopoly of England to stand lowest in the visible evidences of civilization, as seen in her manufacturing industries. I am sorry to be obliged to say that to-day we in America have inherited that reputation which England has lost. You must bear with me in thus speaking the truth to you, because I am here myself to share in the reproach and to do my part in its removal." *

A similar mortifying lesson was taught the manufacturers and people of Great Britain in 1851. How quickly they comprehended it, and how successfully they have overcome that inferiority, was triumphantly

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* "Industrial Education and Drawing as its Basis." Address by Prof. Walter Smith, before Massachusetts Teachers' Association, Worcester, December 28, 1878. Published by Normal Art School, 1878, pp. 31.

shown in their comprehensive and beautiful displays at the Centennial, to which reference has just been made. It will be strange and humiliating indeed if Americans cannot improve upon the lessons so plainly given.

By what instrumentalities this wonderful and beneficient industrial revolution in Great Britain has been accomplished—efforts in which the Royal Family, the Parliament, the manufacturers, the educators, the artists and the workers of England all heartily coöperated, and in which the revenues of the realm were freely expended; appropriations for the purchase of works of art for the South Kensington, and other museums, being granted by Parliament with a liberality rarely shown by the Congress of the United States, for other purposes than for the improvement of rivers and harbors; will be found fully set forth elsewhere in this Report,* and is more or less familiar to all who have heard, as who has not, of the South Kensington Government Schools and Museums. In his Worcester address already quoted, Professor Smith, after his reference to the low condition of artistic manufactures in America, portrays, as follows, the situation in England in 1851, contrasting it with the surprising improvement effected in a few years, as shown by the English displays at the Paris Exhibition in 1878. The conceded qualifications of Professor Smith for undertaking such comparative studies give great weight to his words, while the conclusion reached, namely, that the United States needs only to adopt like educational methods to enable her to achieve like triumphs, hardly needs expression. Professor Smith says:

"In the Great Exhibition of 1851, the English critic had to walk through the industrial department of his native country with bowed head and a sensation of shame. In the Paris Exhibition of 1878, he could examine English work with head erect and a feeling of honorable pride. And though this may be regarded as a sentiment only, it is one which has a very metallic character, intimately associated with dollars and cents, and with that which makes life worth living.

"I have seen and watched this transformation of the industries of a nation, from a condition of semi-barbarism to one of the greatest refinement; from the comparative worthlessness of rude labor to the highest development and value of matured skill. It is an inevitable result brought about by human means. It is something the nation is proud of and finds intensely profitable. But there is no mystery about it to those who have been working in the vineyard or even only been looking on for the last seven and twenty years; nothing supernatural in this growth of skill and values, which has developed under our own observation as the result of faith, patience, foresight, and work. This is how it all came about. A few men who were intelligent enough to see that skill paid better than clumsiness, and was a nobler and more precious thing, and were patriotic enough to say that England was behind in her taste and skill, and that it was unprofitable economically and disgraceful nationally to be on a lower plane than other nations in the highest developments of civilization; a few men who would *not* be put down by the derisive shouting of 'Rule Britannia,' by sham patriots, nor the roaring of British lions, have achieved this transformation so glorious for England; and have done so by appealing, through a system of national art education, for something which was said to be not in the instincts of Englishmen; and in spite of all opposition, and in the face of most unfair criticism, have accomplished their work, and made the English a skilled nation. Now, I hold that whilst it requires some courage to say deliberately that we are behind European nations in taste and skill, we must say it, though it makes the eagle scream, or the lion roar, for it is the only verdict that can be given by honest and competent judges; and that to say so here and now until it is believed and remedied is not to express an opinion which is pleasant, for it may cause me to be much misunderstood, but, simply in the line of a proper discharge of my duty because I know it to be true, and this may be one step in a long journey, perhaps towards the industrial skill this nation sorely needs."

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* See Part I, Appendix F.

That with the striking exception of the exhibitions shown by the American silversmiths and jewellers, notably those of "Starr & Marcus," and of "Tiffany & Co.," both of New York, and by the makers of American watches, the articles shown by the United States exhibitors in the Main Building, in which the application of art to industry was an important element of value, were generally very inferior, both in excellence of design and in workmanship, to the articles of a similar class shown by exhibitors from other countries, was as apparent, to critical observers, as was the general and striking superiority, both in ingenuity of invention, and in perfection of construction, of the machines and implements shown by the United States exhibitors in Machinery Hall, and in the Agricultural Building, over those exhibited by the inventors and manufacturers of all other nations.

In this latter fact is found ample assurance that nothing is wanting to our American producers, except the requisite preliminary artistic training, to enable them to equal, and doubtless often to excel, the industrial art workers of other nations.

This admitted excellence of American inventors and of American artisans, in such industries as they have had opportunity of learning, proves that it is only want of training in art industries, that is the cause of American inferiority in art products. It is one of the purposes of these papers to show that such training is both practicable and desirable; and, therefore, to urge that the requisite elementary industrial art training, known as "industrial drawing," may be given to every scholar in the public schools of America. In addition to this general elementary training, it is desirable that a supplementary course of technical industrial training in the mechanic arts, should be offered without cost, to such boys of the public schools as are sufficiently advanced, and as wish to fit themselves thereby to become skilled mechanics;—thus adding directly to the industrial strength and therefore to the wealth of the community.

By this suggestion it is not meant that trades shall be taught in the primary public schools, but, while teaching elementary industrial drawing in the primary and high schools, to further provide, for such pupils as wish to continue their industrial training, instead of going on with their literary course, like opportunities to those which are provided for the public school pupils who desire to fit for the State university. That all pupils should have an equal opportunity to share in the public provision for education, is so just a proposition that none will deny it;—that, in fact, a large number are unable to do so, is apparent. It is submitted that to offer, to such as are unable to, or do not desire to avail themselves of the opportunities for collegiate or professional education, the opportunity of acquiring skill in mechanic arts would be to afford to them equal advantages in fitting them for the work of life, as is given to their fellows who are fitting for the so-called learned professions.

That to do this would be to remove one just cause of complaint against the public school system, seems indisputable. That the establishment of training shops in which pupils could be taught the use of tools as they are now taught in the work shops of the Massachusetts "Institute of Technology," and in the Russian "Strogonoff School," as a part of the public school system in the cities and larger towns of the United States, is, we believe, not at all an impossibility.

The necessary expense for the kind of instruction proposed if undertaken as a part of the public school "plant," by the larger towns and cities, would not be relatively large; since a little attention to arrangement of classes would enable several sets of pupils to make use of the same equipment. The first cost of a fully equipped shop for both wood and metal work, suitable for the needs of a large town or city, would indeed be considerable; but, if the facilities were made available, as they could be to several sets of pupils each, the cost per scholar need not be unreasonable; while the advantages promised are most desirable. The model is found in this country in the shops attached to the Massachusetts Institute of Technology, which follows after the system of the Strogonoff School. As supplementary to the public schools such shops might do most valuable and efficient work; that such a development of industrial art drawing was contemplated from the first, appears in the following words of Professor Smith at Worcester in 1878: "Twenty years ago I was hissed on a public platform in England, for advocating free, unsectarian, and compulsory education. To-day, national education in England is unsectarian and compulsory, and free to all who cannot pay. * * * This day I stand here to advocate technical education, everywhere and for everybody, and in twenty years from now we shall have it."

INDUSTRIAL ART IN AMERICA.

The Centennial created a demand for artistic objects—American manufacturers, as yet, unable to supply this demand—Money paid to foreign producers of art objects is a tribute tax—The problem of how to develop American artistic industries to supply this new home demand worthy of consideration by manufacturers, political economists, and statesmen—Dangers to social order arising from idleness and ignorance—Cannot the United States train art workers as readily as England, France, and Russia?—Drawing not a mere accomplishment, but a serious training for workers in art industries—Causes of present dissatisfaction with common schools considered—Kindergärten as a feature of the public school system—Illiteracy—Speech of Senator Blair.

One of the results of this exhibition of the beautiful objects made by the art workers of the world, was to develop a desire, on the part of the visiting multitudes, to possess similar works; and the great increase that has taken place, since the Centennial, in the importation of all articles in which art enters as an element,—which he may read who runs, glancing at the shop windows of our cities,—is a proof that our native manufacturers do not yet supply this demand. Writing in the summer of 1882, it is due to truth to state that in many quarters and in numberless ways vigorous and often successful efforts have been made to meet the artistic demands created by the Centennial; that new artistic industries are developing, while in all manufactures the art element enters, more or less intelligently; but, though our native manufacturers thus show themselves alive to the new movement, either through lack of skill in themselves or their workmen, they as yet fail to keep pace with the ever growing demand.

The people of the United States continue every year to pay millions of dollars to the superior artists and artisans of other countries. Every cent of this represents the foreign tax voluntarily paid by the citizens of this country, simply as the consequence of their own ignorance and want of skill. It is in the nature of the tribute money formerly sent by subject to superior nations. Did they export an equal amount of artistic manufactures this now humiliating payment of "tribute" money would be transformed into an honorable and profitable reciprocal exchange of commodities; but, to export only raw materials and to import mostly manufactured articles is a like open confession of inferiority.*

If the above statements are true, and the facts admit of no successful contradiction, they present a problem which demands the serious and immediate consideration of American statesmen, legislators, and educators. A problem of profound interest to the political economist, for the productive, or non-productive character of the population, and the methods of increasing the value and amount of production, are the constant subjects of his consideration. A problem of no less interest to the moralist for, on the solution of this question of the feasibility of introducing into the public schools of America regular training in industrial art education, is included that of providing a large body of industrious productive citizens in place of the now rapidly increasing class of idle, ignorant and vicious non-producers who, as "loafers" and "hoodlums," are growing alarmingly familiar to the residents of all our cities and large towns, and are known to those who dwell in the country as the dreaded "tramp." A powerful writer upon the social problems of the present day in the United States remarks in a recent work: "We cannot go on permitting men to vote and forcing them to tramp. We cannot go on educating boys and girls in our public schools and then refusing them the right to earn an honest living." Which statement I would amend by changing the last line so that it shall read "refusing them the right" to receive such industrial training, as shall give them the skill which will enable them "to earn an honest living." At the present time the child of poor parents has no opportunity to acquire such skill. If the community will not afford such opportunity in public training schools, the community has the alternative of building ever more almshouses and prisons, and of feeding more hoodlums and tramps.

As successful experiment justly outweighs any amount of mere theoretical reasoning, the account already given of the success of Russia and Great Britain, in developing their arts, and art industries, by deliberately undertaking the education of their people as art workers; makes needless, discussion as to the practicability of educating art workers. The questions that remain are as to whether it is practicable to include any part of such training in the schedule of instruction of the free public schools of the United States, and whether, and how far, any given community may be justified in undertaking such education.

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* This excess of imports is largely in the products of the art industries; the United States, besides its cereals and cotton, exports largely of staple goods; its cotton cloth, agricultural implements, and small, ingenious tools and contrivances are seen all over the world.

The tenacity of first impressions, and the persistence of prejudice, are so great, that it seems almost impossible to prevent the immediate conclusion, when the study of drawing is mentioned, that a mere accomplishment for amateurs is meant; and "practical people" at once set their faces like a flint against any such proposition and refuse to listen to argument.*

I wish if possible, that it shall be distinctly understood that whenever in these pages "drawing" in the public schools is spoken of, it is not "picture making," or "an accomplishment," which is meant; but it is the study of industrial drawing, undertaken with the direct purpose of so training the hand and the eye, that the pupil shall be better fitted to earn a livelihood by any of the forms of manual labor, than he or she could be without such training.

The reasons that led England to establish the schools of South Kensington, and Massachusetts to induce Professor Walter Smith to leave an honorable position in his own country, and to devote his distinguished abilities to the establishment of industrial art education as an integral part of the common school system of the State; were recited in "Circular No. 2" published by this Bureau in 1874, and will be found in the appendix to this volume.†

The dissatisfaction with the purely literary character of the education given in the public schools, referred to in that publication, has rather increased than diminished; as the growing movement in favor of introducing training in manual labor into the schools indicates.

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* Although relating to a matter entirely foreign to our present topic I find by chance an illustration of this peculiar characteristic so fitting that I venture to use it. In the Art Catalogue of the Chicago Exposition for 1885 occurs a striking instance of this persistence of unthinking prejudice, in the characterization of Lord Elgin's removal of the Phidian marbles from the Parthenon, as an act of "*despoliation.*" Although Payne Knight, Byron, and others, when the marbles were first brought to London, so denounced it; the evidence given to the Parlimentary committee of inquiry demonstrated that Lord Elgin had saved the marbles from the sure destruction, by Turks and tourists, which had fallen upon so many precious objects. Modern Art owes it to Lord Elgin, that our knowledge of the Art of Phidias is anything more than a tradition. His acts merit only praise from all lovers of Art and should never be characterized by a term so opprobrious as is this of "despoliation".

† See Appendix B, Part I.

In further evidence of this may be instanced the fact of the issuing, by the executive committee of the Carriage Builders' Association in March, 1883, of a formal circular addressed "To Officials and Official Bodies in the United States having the Supervision of Public Education," in which attention is called to the pressing need of some change in the course of study, because either free hand drawing and geometry are not taught, or the pupils leave school before advancing to these studies.

In the debate by the convention at New Haven a few months later, the schools were distinctly arraigned for remissness in these matters. The circular and an abstract of the report and of the discussion will be found in Part II under the account of the Technical Schools of the Metropolitan Museum, New York.

The fundamental difficulty and source of the dissatisfaction which underlies all these movements and discussions, is a grave one and, unless it can be remedied, threatens the perpetuity not only of the public school system, but of the State itself. When the full significance of one fact, which is the most important element in the case, is realized; namely, that the average duration of the school life of the child, in the public schools in the United States,—(which may begin at four, five, six or seven years of age,)—is barely five short years; it will be seen that the problem is not an easy one. Nor will it seem more easy of solution when it is further considered how little can be taught to such young children in so short a time, by confining the child wholly to a mere verbal training, which will perceptibly increase ability to earn bread. When again it is seriously asked how much can be done in the public school during these five short years to make of the child an intelligent citizen, able to read and write with facility and pleasure, and so capable of familiarizing himself with the history and laws of his country; thereby fitting himself to take,—as a Republic of equal voters implies that every voting citizen does take (?)—intelligent action as a participator in the government of his country, what must a truthful answer state?

The absolute necessity of free public schools in order to fit the future citizen for his civic duties, was one of the strong arguments of the promoters of public free schools to be supported by public taxation, during the early struggles over their adoption. When further it is realized that these children, who are so early withdrawn from school, are the very ones who most need the continued advantages of school discipline and education, since they have no other means of education than the free schools; being the children of poor and laboring parents, who, if they have the required knowledge, have not the leisure to teach their children, since their needs are so pressing that they can no longer be deprived of even the scanty sums the little children may be able to earn;—the gravity of the situation must impress itself upon all who are accustomed to read results in causes.

In view of the early age at which in many of the States children may be admitted to the public schools; and in view of the claims that are made in favor of the training afforded to young children from 4 to 12 years of age by the system known as the Fröbel Kindergarten; and especially in connection with this consideration of the value and feasibility of the introduction of the study of industrial drawing into all the grades of the public schools, the statement of the advocates of the Kindergärten, that the training there given is especially designed with a view to the fullest development of the child's constructive capacity; that it trains the hand and the eye, and furnishes the best possible preparation for subsequent industrial art training, such as it is proposed to teach in the public schools, is, in this connection worthy of attention.*

It has been feared that even if the superiority of this form of early training were satisfactorily shown, its great additional cost would effectually prevent its adoption as a part of the public school system; that this also must be conceded as one of the advantages wealth gave to its possessors, and that the boasted superiority of the Kindergarten training must be confined to those children, who, from their surroundings, had least need of exceptional educational advantages.

For all these reasons the experiment now in progress in the city of St. Louis, Mo., where sixty free Kindergärten have been opened as an integral part of the public school system of the city, will be watched with the greatest interest. If these Kindergärten shall prove to exercise over the children any such influence as their advocates claim is effected by true Kindergärten, and the cost of providing them is shown not to be excessive, a great advance will have been made.

If it is hereafter to be feasible to gather the squalid children that teem in the thronging tenements of New York and other large cities,—whose only play grounds now are the festering gutters of the city slums and narrow alleys,—into sunny Kindergärten where neatness and gentleness shall be taught them, where their eyes shall be opened to the perception of beauty, their hands trained in useful activities, and their minds developed naturally and by an orderly method; then, one of the gravest of dangers that menace modern city civilization, may be averted. Hitherto, neither the institutions of state or church have availed to forestall and prevent the constant succession of life long enemies of society who continually issue forth to prey upon their fellows. Generation after generation, born under the shadows of churches and prisons the two crowning edifices of our modern civilization!

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* See in the Appendices to Part II Miss Marwedel's article on Kindergarten instruction, and Miss Peabody's addenda to Cardinal Wiseman's address. See, also, remarks on value of some early training in manual labor in Professor Thompson's paper on "Apprenticeship of the Future."

That this is not a mere figure of rhetoric, was emphatically shown, while these pages were being made ready for the press. On Sunday, March 11, 1883, a startling funeral procession passed through the streets of New York City following the hearse that bore the corpse of a noted bruiser who had been shot in a brawl,—a procession "whose magnitude and peculiar characteristics justify all our morning contemporaries in giving to it to-day more prominence than to any other event of yesterday," says the New York Mail and Express of the 12th.

In an editorial article entitled "A Dress Parade of our Vicious and Criminal Classes," the Mail says: "Yesterday was a great day for those elements of our population which are, at most times and for the most part, ignored by our respectable and orderly population. Since the terrific outbursts of the criminal and violent classes in the 'draft riots' of 1863, the streets of this city have seen no such display of the 'roughs,' bruisers, burglars, thieves, confidence men, bullies, ruffians and murderers that are generally isolated and out of observation, as was afforded by the funeral of 'Jim' Elliott, one of the most unredeemed and ugliest specimens of the professional 'bruisers' of the city.

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"For this demonstration was not merely something to excite a passing curiosity or amazement. It answered the same purpose as those convulsions of nature which turn up to the surface of the earth the primary strata of its crust and so enable the geologist to study it in all its details and with facility. Yesterday's funeral of a peculiarly vicious brute was an upturning of the nether strata of the metropolis, with all its shadows and variations of crime and brutality and viciousness. It was an opening into the abysses of our society and civilization. It clustered into organic arrangement and display the classes who are the constant natural enemies of society and of its police, and the strange spectacles they presented were photographed and preserved by the reporters who watched the strangest procession ever seen in our streets. * * * These are the 'savages of civilization' who, in the deliberate judgment of Macaulay, were the coming perils of all the great centers of civilization. They would be, he was sure, foes more dangerous and savage than were the Goths and Vandals to ancient Rome, or 'the unspeakable Turk' whose incursions and atrocities aroused all Europe to the Crusades.

"They are here; they are gaining rapidly by accessions from the vice, crime, ignorance and diabolic destructive associations of Europe; they have their society, customs, standards of 'honor,' literature, newspapers, orators and representatives in office; they are conscious of their growing physical power."

If, from our boasted free public schools, we are each year letting loose an army of ignorant children, (ignorant because not suffered to stay in school long enough to be taught,) who will have no further opportunities for any kind of orderly training, and who, as citizens and as voters, are to add their numbers to that vast army of utterly illiterate persons, which, according to the census of 1880, is encamped all over the land; an ever increasing multitude whose presence is everywhere a menance, composed not only of ex-slaves at the South, and of European emigrants in the North and West, but of throngs of city vagrants and idlers, and of country poor whites, in all sections of the country; the time is soon coming when this problem will compel attention.

In the speech of Hon. Henry W. Blair of New Hampshire, in advocacy of Governmental aid to common schools, delivered in the Senate of the United States on June 13, 1882, accompanied with careful statistical tables prepared by the U. S. Bureau of Education, and by the U. S. Census authorities, there will be found an appalling array of facts showing the rapid increase and very general distribution of the ignorant population of the United States.

This speech is a concise encyclopædia of exhaustive statistical information on all points relating to the school population and school attendance in the United States, and should be read by all interested in knowing the present status of the common schools of the Republic.

In considering the statistics of illiteracy it must be remembered that not only do not all who can read enough to be enrolled as "able to read," really habitually employ themselves in acquiring knowledge by means of reading, but that it has been found, in point of fact, that rarely have those who cannot write as well as read, ability to read with sufficient ease to induce them to do so except upon great compulsion; practically only those who can both write and read readily, read at all. So that the statistics, appalling as they are, make a more favorable showing than would be warranted by exact facts.

The total population of the United States in 1880 is given as 50,155,783. Total population who cannot read, ten years of age and over, 4,923,451. Total population who cannot write, ten years of age and over, 6,239,958. Total white population, 43,402,970. Total white population who cannot write, ten years of age and over, 3,019,080. Total colored population (includes Indians, Chinese, etc.), 6,752,813. Total colored population who cannot write, ten years of age and over, 3,220,878.

Upon the basis of one voter to every five persons the voting population in 1880 is given as ten millions; of these there are approximately two millions who cannot read or write—about equally divided between the white and colored races, and so generally distributed over the whole country that in "every one of the Middle, Southern, and most of the Western States," as well as in Maine, New Hampshire, Massachusetts, and Connecticut, "these illiterate voters have power, if combined, to decide every political issue between the two parties."

There were about fifteen and one-third millions of school population in 1880. In 1882, these are estimated at eighteen millions; "with their education we are charged. * * * In less than ten years they will be the nation. Of these, ten and one-half millions are enrolled in public and private schools and six millions is the average attendance, while seven and one-half millions, or five-twelfths of the whole, are growing up in absolute ignorance of the English alphabet.

"This seems incredible but these are the figures. * * * At this rate, before another census we shall have passed the line, and there will be more children in this country out of the schools than in them, and before half a century ignorance and its consequences will unquestionably have overthrown the Republic. We have reached the crisis of our fate. The education of the people is the most important issue before the country, and it must remain so for years to come."

A table of school population and attendance in eighty-six cities is given. These cities contain 8,300,081 inhabitants, or nearly one-sixth of the whole population of the country; with a school population of a little more than two millions ;—of these, at least one-half are not even enrolled in any school, public or private, while in some of the cities the percentage of the children without any school education is as high as 82 per cent.

The facts of illiteracy shown by these census figures are indeed alarming and the discrepancy between the totals of school population and school attendance challenges attention ; in few cities are there school accommodations for all the population of school age, but the limit of school age varying as it does in different States between the extremes of four years to twenty-one years of age, shows that it does not follow, because certain ones are not enrolled on a given day, that they will necessarily grow up ignorant; they may have already been in school several years, or they may attend hereafter. Where average attendance is only five years, there is considerable of a margin in the seventeen years of possible attendance. Still, if not as bad as the Senator fears, the evil is nevertheless real and menacing.

These unimpassioned figures, even after all allowances and deductions have been made, give terrible emphasis to the following question and its answer, by a recent writer: "Whence shall come the new barbarians? Go through the squalid quarters of great cities, and you may see, even now their gathering hordes!"

Ignorance and poverty will as inevitably move festering masses of humanity to overthrow the existing institutions of society in the crowded cities of the new world, as they have done in those of the old ; and all the sooner and more effectually because here, ignorance and poverty can put their hands on the very engines of political power, which, in the old world, were beyond their reach.

These latest statistics of illiteracy, as given in the foregoing extracts from the remarkable presentation recently made to the United States Senate by the honorable chairman of their Committee on Education and Labor, in which the inadequacy of the common schools of the country to longer contend successfully with the ever rising tides of ignorance, unless immediately and largely reinforced, is emphatically shown; are commended to the thoughtful consideration of all well wishers to their country.

If this Republic is to remain a Republic in fact as well as in form, those who desire to preserve it in its pristine purity and who wish the great experiment undertaken to demonstrate the capacity of man for self-government, which was begun in the Eighteenth Century to at least outlast the Nineteenth, must at once rouse themselves to apply some effectual remedy to the alarming conditions which have been so unexpectedly revealed. "To give the suffrage to tramps, to paupers, to men to whom the chance to labor is a boon, to men who must beg, or steal, or starve, is to invoke destruction. To put political power in the hands of men embittered and degraded by poverty is to tie firebrands to foxes and turn them loose amid the standing corn; it is to put out the eyes of Samson and to twine his arms around the pillars of national life."* (Page 478.)

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* Progress and Poverty, by Henry George. New York, 1880. D. Appleton & Co. pp. 508.

DANGERS DISCLOSED BY THE CENSUS.

The revelations as to illiteracy and non-attendance on schools made by the Census—Threatening dangers from ignorance illustrated by Victor Hugo—How can the number of the child's school years be increased?—Indifference of classes of citizens to the education of their children, as set forth by a writer in the Louisville Commercial—Compulsory attendance referred to—Evils incident to all such paternal legislation—A community in earnest can surely devise better methods of securing school attendance—The relation of the present training given in common schools to wage-earning capacity—Elementary industrial art training in all public schools, an important factor in the solution of the problem of educating a people—Man a productive, as well as a receptive creature—True education would develop all his powers—Does the present system on the contrary ignore all the productive faculties?—If so, is not the training insufficient?—The public schools do not directly fit pupils for productive industries; consequent pressure of competition in the few occupations for which they are fitted—When children learn that thought can be as truly expressed by the making of things as by an oration or poem, then the maker of thoughtful things will be honored by them equally with the orator or poet—When all public school children understand this, they will be eager to make such things, and then the art worker will take his rightful place—The Kindergarteners, for the very young children, and Mr. Leland, in Philadelphia, and Professor Adler, in New York, with older pupils, aim to develop the productive faculties—Most public school children must be workers, and it is not unjust to demand that the schools do more than they have done to prepare them for their work—The schools will readily respond to such demands.

To those who believe in the worth to the Republic of the training given to its children in the free common schools of the country, the statement by Senator Blair, quoted in the preceding paper, of the surprising facts shown by the census of 1880, will indeed be startling and portentous. These figures show that as an efficient means of giving elementary instruction to all the citizens of the United States the common-school system, as now existing in the several States and Territories of the Union, proves inadequate. Since, according to the census, from one-third to one-half of all the children are now growing up without any schooling.

What it means not to know how to read, and with what dangers such ignorance menaces society, Victor Hugo shows, writing by the lurid light of burning Paris, in 1871, the poem, "À qui la faute?" "Whose is the fault?" Addressing an incendiary, caught in the very act, he says "You come from burning the Library?" "Yes, I set fire to that." "But it is an unheard of crime!—a crime committed by yourself against yourself, infamous creature!"

Then, with impetuous, uncontrollable eloquence he recited all that books are, and all they have done and can do, for the slave, the unhappy; "for knowledge comes first to man, then comes liberty," and he portrays in impassioned words, what these treasures would have been to the man himself; at last, pausing from his tumultuous speech, he turns upon the wretch with an apostrophe that should be overwhelming, "Et tu détruis cela, toi!" "And you, you destroy all this!" To this terrible accusation the man, unmoved, simply replies: "Je ne sais pas lire." "I cannot read!"

In view of the facts of illiteracy and non-attendance recited, indicating a somewhat general failure on the part of the public schools to reach the school children, a failure the alarming extent of which was hitherto unknown, the advocates of such additions to, and changes in, the course of studies as will give more practical training for the work of life, resulting it is to be hoped in inducing parents to keep their children in school for longer periods, find in these fearful statements additional incentives to urge the adoption of the proposed elementary industrial art training. If so few children go to school at all, the more reason for making those few efficient workers. If a change in the studies taught will induce greater and longer attendance, never were inducements to such ends more urgently demanded.

Two plans suggest themselves, both looking primarily to the same end, viz, the longer retention of the average pupil in school. First, such a modification of the school training as shall plainly fit the child to earn more money when school days are over; secondly, and this is of course the simple result of the adoption as proposed of a progressive system of industrial training, such a course as shall plainly with each additional year of schooling add to the child's earnings after leaving school.

If the parent realizes that the boy or girl who stays in school till thirteen years of age can earn more money than the one who only stays till ten years of age; and if the child who stays till sixteen years of age earns more in proportion than the one who leaves when only thirteen: the desire will naturally be to keep the child in school as long as possible so that it can earn more money for the common family, instead of, as now, to take the child out as soon as possible, so that it may earn something.

The question then turns upon its economic aspect, and is practically, how shall public school training best fit the child to become a bread-winner? First, does even so little education as only teaches the child to read, increase its earning capacity as a laborer? A series of investigations, embracing many kinds of labor and extending all over the United States, entered into by the U. S. Commissioner of Education in 1870, and reported at length,* seemed to demonstrate that even such scant measure of education as enables one to read print, adds sensibly to the wage earning capacity of the laborer in most kinds of labor; while ability to read and write with ease,—for it is found that as a rule it is only those who can write with ease, who read with such facility as to enjoy reading,—greatly increases the wage earning capacity. As to the fact of this last increase there was complete concurrence of testimony on the part of all the witnesses.

The great economic advantage of skilled over unskilled labor in the commonest work, such as using the shovel and the hoe, the axe and the saw, has been most clearly set forth by no less an authority than the distinguished Dr. Edward Jarvis, of Dorchester, Mass., whose convincing article on this subject was published by the U. S. Commissioner of Education in 1879.†

It was shown by a concurrence of testimony, that any substantial increase in intelligence adds to the value of the laborer, and further, it appears that gain in wage earning capacity increases in geometrical ratio, as the individual advancing from the lowest grades of unskilled laborers enters the ranks of skilled labor, and advances to its highest grades.

It may then be taken as an admitted fact that the present training in the public schools if continued for a sufficient period, adds more or less to the productive value of the pupils; since ability to read and write does increase wage earning capacity. If, then, the public school pupil has acquired the ability to read and write with ease, that pupil has gained sensible addition to wage earning capacity. The question then turns upon whether the average child, who only stays five years in the school, acquires that ability.

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* In the Annual Report of the U. S. Commissioner of Education for 1870 and referred to in the article by Dr. Jarvis in "Circular of the Bureau of Education, No. 3, 1879.

† "The Value of Common School Education to Common Labor, by Dr. Edward Jarvis, of Dorchester, Mass. Circulars of Information, No. 3, 1879."

It is, however, painfully evident that either the child does not thus acquire enough to add sufficiently to the ability to earn money, to justify the parent in dispensing with the labor of the child for any length of time, after it is large enough to be put to manual employment; or, that parents are lamentably ignorant of the fact that longer stay in school would make the children of more value as workers, thereby enabling them eventually to make larger contribution to the common fund of the family; or that, by reason of grinding poverty, the parents are wholly unable to make the present sacrifice for the future gain.

The enactment of laws for compulsory education in some communities, and the serious consideration of the adoption of similar means of enforcing attendance on schools in others, sufficiently demonstrate the fact of a somewhat general indifference or opposition on the part of such parents to sending their children to any school; or, if the youngest are sent, to allowing them to continue long enough in school to get there any real advantage.

An incidental glance at that daily History of our own Times which is called the newspaper, curiously confirms the above; since I find quoted in the New York Tribune of March 29, 1883, the following comments by the Louisville Commercial on "the fact that in Kentucky, there are thousands of children who are never sent to school. These neglected children will grow up to be men and women to whom a spelling book will be as unintelligible as Phœnician hieroglyphics; they will become the heads of bookless households and the parents of hordes of other children of darkened intellects; the men among them will be voters who will be as clay in the hands of political demagogues; they will impede the enforcement of all laws by their ignorance of law; and they will hinder all improvement in the State by their persistence in their narrow views. The mere increase of the school fund will not bring these children into the schools. If the State were to build costly school-houses in every district and provide first class teachers free of charge the children of the illiterate element would still remain uneducated if their parents were left to their own choice."

This writer, considering in the article from which this is quoted, as it appears, the proposed United States grant in aid of public schools as urged by Senator Blair, is clearly of the opinion that, in Kentucky at least, there is a necessity for some form of enforced attendance on school, if all the children of the State are to be taught in the free public schools; that is to say, in other words, that the children of a community can only be reached through their parents, and that to illiterate parents as a rule,— not however without striking exceptions,—for instance in the general desire manifested for schools for their children by the colored freedmen after the war; there must be other inducements than a mere desire that their children shall be taught at school to read and write. Those whose children are never sent to school are indeed one remove below those whose children are not kept in attendance long enough to secure the advantages to which they, and the community which provides the schools, are alike entitled; but it is simply a difference of degree, not of kind. To increase the value to the child of the elementary training, and thereby, to add to the inducements to the parents both to send their children to the schools, and to keep them there a sufficient time, is the design of such a change in the kind and arrangement of the studies to be taught in the public schools as is herein advocated; namely, the adoption of such a simple, elementary and progressive course in industrial art training, as will teach each child how to use its eyes and hands, so that it will be better fitted for any mechanical employment; will know how to draw and how to understand working drawings, and will be thus prepared to enter on the better paid employments of skilled laborers, instead of joining the poverty stricken masses of unskilled laborers.

The girls will the more readily learn all the mysteries of sewing and similar employments, while the boys will easily acquire the technical skill requisite in any of the mechanic arts; while all who may have a capacity for excelling in any of the so called fine arts, will have been here drilled in the preliminary study of drawing.

The subject of enforced attendance has been referred to only as proof that the non-attendance of children upon school had aroused the anxiety of citizens in many communities, which is evidence that if the plan here proposed is indeed what its advocates believe, it merits the support of all communities who desire fuller and longer attendance of the children in the schools.

It may be pertinent to remark, in passing, that whoever originated the term "compulsory education" displayed exceptional ignorance or uncommon want of tact. It is not easy to believe that this unfortunate name had an American or an English origin; since the idea it conveys is utterly repugnant to the genius of the two kindred peoples. "Though reasons were as plenty as blackberries I would give none upon compulsion" expresses the true spirit of a free-born American or Englishman. If that spirit is to be changed by schooling, then away with schools—"*potior periculosas libertatis*"—better an ignorant devotion to freedom, than any cultured sycophancy to tyranny; but the fathers, who founded their free state upon education, knew well that in securing to their children the ability to read and to write, they were giving to them the most potent weapons against every form of tyranny; for he who can, for himself, understand the words of others, and can himself freely communicate his own opinions to all others, is doubly armed against oppression;—whether of bigots, despots, or demagogues.

Some earnest advocate of popular education whose zeal outran discretion, or who, perchance, was blinded by the specious maxim that "the end justifies the means," may, in his overweening desire to secure to all children the possession of these master keys of knowledge, have ignored the greater evils he was thus engendering, by calling on the supreme power of the state to force, Procrustes-like, equal instruction upon all, regardless of conditions or circumstances; for, as there are many things more precious than life, and for which the virtuous man does not hesitate to sacrifice life, so there are many virtues and qualities more valuable, and some necessities more pressing, than a school knowledge of reading and writing.

Not even for the great boon of attending a country district school, or an overcrowded city school, should a child be taught to despise its parents; nor, in the name of education, should a community, harpy like, snatch from enfeebled age or invalided poverty, their sole, if youthful supports. The worst lessons might thus be taught the child, and the cruellest tyranny exerted against the parents, under the specious pretence of concern for the child's good, and by the might of a "compulsory law!"

There is no class of legislation which should be more carefully considered, or which should contain more stringent provisions to guard against possible oppression in its execution. Paternal legislation is ever the most enervating in its influence; while often, the cruellest despotism suffered, occurs in obedience to the provisions of some law which was ostensibly enacted for the benefit of the sufferers.

It is well, when such laws are proposed, for a free people who intend to remain free, to greatly "fear the Greeks even when they come bearing gifts," though of so precious a quality as is universal popular education. A people can pay too high a price even for free public schools.

If on the other hand a community really desires to secure the elementary education of all children there are no insuperable obstacles to their so doing; without violating private rights or decreasing personal freedom.

In this, as in most other cases, "where there's a will there's a way" and the wise exercise of a little humanity and much tact, will avoid friction. By half time schools, by night classes, by Sunday schools, by a little wise benevolence in exceptional cases, and by offering special inducements for attendance, the desired end may be satisfactorily attained. When once general attendance is secured, the fact that what the child learns in school gives it a better chance in life, and also makes its labor of more money value to its parents, may be presumed to greatly lessen the main difficulty now experienced, namely, that the children stay so few years in school.

Now, while so much attention has been given to the disposition of the parent, a matter indeed of paramount importance in the decision as to whether the child shall attend school or not, nothing has been said about the child; while, in fact, after the child has been for some time at school, its own desires, in most instances, play a very important part in the decision as to its longer continuance in school, and just here the proposed new studies make a strong claim for consideration, in that they supply just the interest which, to many children, is wanting in the other studies; for many a child who finds books dull and school tasks irksome, delights to make things, and if this desire is gratified, as it will be where industrial drawing is taught, may be longer willingly held in school.

Further, it is often asserted, nor is it very vigorously denied, that the purely literary character of studies taught in the public schools has a tendency to prejudice the pupil against the employments of manual labor; that public school pupils desire the sedentary work of clerks, and book-keepers, rather than such work as is inseparable from the mechanic arts.* They aspire to be something higher in the social scale than is the position conceded to a mere "mechanic"; as if the man who spends his days behind a counter in selling tape and taffeta, was more to be respected than he, at whose will lofty buildings arise, and whose brain plans the erections which his own and other strong hands make real!

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* See *passim*, quotation from French writer in Professor Thompson's "Apprenticeship of the Future," Appendix P, Part II.

If it is true that our public schools instil false ideas about labor it is a matter of grave moment, but it may prove that our public schools, in this matter but reflect the opinion of that public which creates and supports them! This objection, however, hardly applies to the children of whom we have spoken, who remain too few years at. school to there acquire any very definite ideas of social inequality, and whose apparent destiny it is to swell the teeming ranks of unskilled labor.

Of the value of universal industrial art training as affording to the pupils, and to the public, the most effective antidote against the poison of that snobbery which affects to despise honest labor, it will be in order to discourse hereafter; at present we are concerned only with its economic aspect.

Yet the subject suggested, merits more than a passing reference. The evil arises not alone from the false ideas that may obtain among the older scholars in regard to the relative inferiority in dignity and importance of the workers in mechanic arts as contrasted with those who are occupied as clerks, book-keepers, etc., and it may be worth our while in considering the economic relations of these questions, to see if these false ideas of the older pupils are not the direct logical result of the training given in the schools. To examine also, whether this desire for the lighter occupations does not arise, in part, from stern necessity, does not come from the fact that the schools have fitted the pupil for no other industries; that, in short, there is nothing else that the boy or girl *can* do. The so called "education" given them has been so utterly one sided and narrow, that they go out into the world to enter the struggle of life with their fellows, with only a few of their faculties developed by school training; their very education limits them to a narrow range of occupations, and the very abundance of schools, each year graduating similarly trained pupils, makes it harder and harder for each one to earn a living; because the numbers seeking, and fitted for, the particular employments are annually increased, while there is no relative increase in the need for workers in these employments.

Let any one advertise in any city or large town, for a clerk or book-keeper, and see the crowds of thoroughly competent applicants that will press forward for the place. At the same time let one advertise for a thoroughly skilled worker in any craft, or art, and it is safe to say there will be no pressure of American public school graduates;—possibly a few German or French artificers may apply, but not many even of those, for persons possessing the requisite technical skill readily find employment.

The present school system ignores the productive faculties of man; consequently its training is insufficient. The weighty charge that could truthfully be urged against the public school education in the United States is, not that its teaching leads to a contempt by the pupils for honest labor with the hands; but, that it in no way fits the child for such labor. Training the child during the most plastic period of its life, it wholly ignores some of the productive faculties of the child's nature and so develops a monstrosity; a creature, whose receptive faculties are as morbidly increased as are the livers of the fattened geese of Strasbourg, while its powers of producing are limited to the use of a spoken or written language!

The brain, through the five channels of the senses, receives impressions which result in knowledge. It posseses the power of assimilating this knowledge and of giving it out again; for the human being is a producer, as well as an absorbent. Now the ideal of the proper training,—" education "—of such a being, would seem to be such as would result in the most complete development of all its powers; its powers of production, as well as of absorption.*

Art works are as true an expression of thought as art words. The sculptor's chisel, the goldsmith's hammer, the painter's brush, are as potent, and as honorable, as the poet's pen. The child at school, however, is taught nothing in regard to these truths, but is taught,—and so far rightly taught,—appreciation of the words of great writers and poets, while, unless happily there may be exceptions within the past few years, what public school has ever taught its scholars to look upon any works made by the hands, as just as truly and just as worthily, a manifestation of the thought of the maker, as the oration, or the poem, were the expression of the thought of Mr. Webster, or of Mr. Longfellow?† One who has given much consideration to this subject of school training, and also to the fast coming difficulties that, foreshadowed in the labor riots of a few years ago, menace from the future our crowded cities, suggests that from the schools must come our salvation, and through the development of the producing faculties of the child.

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* For interesting illustrations of this topic, see address on "Industrial Education from a Business Standpoint" delivered by Mr. John S. Clark, of Boston, before the Board of Trade and the Franklin Institute of Philadelphia, June 6, 1881. Published by L. Prang & Co. Boston, 1881. pp. 19.

†"These ought ye to have done and not to have left the others undone."

When all recognize that one who, for instance, hammers out a beautiful design in repoussé is just as truly embodying a thought, as one who writes a beautiful poem, then there will be no need of reading to the children, formal essays upon the "dignity of labor."

The schools have practically taught that letters were the only worthy form of expression for thought, and a literary education the only one to be given in schools. When the schools realize that, by not training the eyes and the hands of their pupils so that they may be able to express thoughts by the language of form, and of color, and by the making of things, as well as by the speaking or writing of words, they have been sending out their scholars, as it were, blind and maimed; for having eyes they saw not, and having hands and fingers they did not know how to use them, or how to make a single thing that any one wanted made, nor were they much better fitted to acquire industrial skill, than if they had never gone to school. When the schools realize this, and set seriously at work, as the Kindergarteners have done, and as one or two teachers of older children are now doing, notably Mr. Leland in Philadelphia and Mr. Adler in New York, to develop all the child's powers of expression; then, all forms of manual labor will be seen to be capable of artistic treatment, and, as means of expressions of thought, will at last be held of equal rank with skill in using words.

The vast majority of children in public schools are destined to earn their living by their own efforts. What are these schools doing towards fitting them for their future duties? This is a practical question; to it, it must be replied, that, while they are doing something, and something of very appreciable value, they, as yet, apparently from want of recognition of the needs of the pupils, and of their own ability to supply their needs, have failed to do for them what they ought to have done, and what they can do. The general recognition of their failure in these respects will be the first requisite for their reformation. The public schools will readily respond to the public demand.

EDUCATION IN RELATION TO SOCIAL AND ECONOMIC CHANGES.

A knowledge of industrial drawing increases wages — Such knowledge can be acquired in the public schools — "Want of time" no valid objection — The study valuable for mental discipline — Present schools not adapted to present needs, hence unsatisfactory — Why should public schools exist? — The universal system of public schools affords to the United States unrivalled facilities for introducing industrial art training — England, in 1851, had no such appliances as the United States public schools supply — Causes of changed conditions of American labor — American labor pays all the cost of all imported foreign art products — Recapitulations of causes of changed condition of labor in the United States, and consequent necessity of change in the training given in public schools.

That elementary training in drawing increases the wage-earning capacity of the worker in all mechanical industries, is very generally conceded by investigators. Subsequently, in many places in the present work, both in the body of the work and in the several Appendices, there is presented a large amount of evidence that the training of the hand and eye acquired by sufficient practice in industrial drawing,—such as has been afforded in many schools in Great Britain and on the continent, and in some public schools, and various other institutions in the United States,—adds sensibly to the wage-earning capacity of the pupil. It is also shown that this wage-earning capacity increases in direct ratio with the acquisition of increased knowledge and skill in drawing; so that, a worker in many of the mechanic arts who knows only enough of drawing to be able to 'read a drawing,' that is to understand what is meant by the lines when a working drawing is given him, is of more money value to himself and to his employer, than one who cannot thus work from a drawing; while he who can make working drawings for others to work from, is so much the more valuable. The inference is conclusive that, if industrial drawing can be taught the children of the public schools as generally and thoroughly as reading and writing are now taught, it will sensibly add to their wage-earning capacity; in other words will make them more serviceable as workers, and therefore of more money value to their parents, to themselves, to their employers, and to the community, than they would otherwise be. It may be here remarked, incidentally, that if, by reason of wishing to learn more of drawing the child remains longer at school, he gets, not only the benefit of the increased drawing, but also of the other studies which those unappreciative of the value of the study of drawing think of more importance; so that, if for no other reason, they may be led to tolerate the introduction of the new study when they find that it acts as an inducement to keep the child longer at school to study the old studies.

Since experince shows that elementary training in drawing can be successfully given in all public schools, I shall also ask the reader to accept as established, upon the evidence, hereinafter adduced, of Professor Walter Smith, and other admitted authorities, first, that every child possessing average mental faculties and natural eyesight and fingers can be as easily taught to draw as to write; second, that experience in Massachusetts, and in many cities and towns in other States, in which drawing has been introduced into the public schools, has shown that, with a little preliminary training, the teachers in the public schools can teach this drawing to the children as readily as they teach reading and arithmetic. That further, the expense of employing at first a skilled teacher to instruct these teachers, is not so great as to make this a serious obstacle to the introduction of the study; nor, after the opportunity for such normal instruction has been given, will it be a hardship to make ability to teach drawing a requisite qualification of a public school teacher.

In answer to the frequent objection that there is no room or time, for any additional studies in the public school schedule of studies, it may be urged, first, that if there is any ground for the complaint that the teaching is now altogether too purely literary, then it is clear that some of the studies now in the course ought to be displaced, and a practical study such as is drawing, substituted; second, that competent instructors have long asserted that drawing and penmanship can be both taught in the time usually allotted to penmanship, and that the penmanship, which itself is but a species of drawing, will be more easily acquired and of a finer quality than is the case when penmanship alone is taught,—in fact, Mr. Ruskin has said that the child should be taught drawing *before* being taught to write; third, that the claim of the study of elementary drawing for admittance in all public schools is as strong as that of reading or spelling; because it is as essential to a worker in any industrial occupation. Drawing is also of far more importance to the average pupil, than is a knowledge of the abstruse technicalities of grammar, the "fancy rules" of arithmetic, or the obscure capes and villages, of the atlas. The objection that there is not time or room for this study is therefore clearly untenable. In short, there can be no doubt, if the importance of this study should be once realized by the public, and by the teachers, that there could readily be given to it much more of time and attention each week, than has been attempted even in the schools of Boston, without the slightest loss to the pupils in other studies. Enough time is wasted in useless repetitions, in learning to spell useless words, in arithmetical puzzles valuable only as mental gymnastics, and in worse than useless memorizing of geographical names; which, if economized and given to drawing, would furnish ample opportunities for thorough training in this important practical study.

It is not only in its relations to the pupil, that drawing has a claim upon the attention of educators. No one who has ever seen the felicitous uses made of the blackboard and crayon by the late Prof. Louis Agassiz and Mr. Waterhouse Hawkins, in their public lectures; or who has witnessed the rapid sketches made by Mr. French, of Chicago, in his art lectures, or the facility shown by Mr. Little, of Washington, in his "chalk talks," can fail to appreciate the value of drawing as a means of illustrating a great variety of topics to a school or class. With a teacher competent to utilize crayons and blackboards in illustrating other studies, and all teachers ought to be able to do this, ample time could be saved for the instruction of the pupils in industrial drawing.

The value of drawing as a means of mental discipline is believed to be not inferior to that of any of the studies at present included in the curriculum of the public schools. It is therefore, not only because of its direct application to the industries and arts, and hence of its economic value to the pupil, that this study of drawing has a claim to admission into the public schools. Its value as a means of developing and training the intellectual faculties is so well established, that from the professional point of view of the teacher, and regarded merely as an instrument of pedogogics, the progressive system of industrial drawing as designed by Walter Smith, or any similar system based like that upon elementary geometry, and proceeding by consecutive steps from elementary to complex forms, can readily establish its claim for introduction into the elementary course of instruction, on educational grounds alone. The value of the study of geometry as an instrument for mental training is conceded, and as this system of drawing which we are considering possesses something of that same quality it ought, so far as it makes use of the identical processes of geometry, to share in the consideration given to that important study. It possesses the added value of bringing the methods and truths of geometry down to the youngest pupils who might otherwise never receive the benefit of that form of mental training.

This study of elementary industrial art also possesses the power to excite the interest and arouse the attention of the child, whose creative instincts are so early awakened that some philosophers have regarded the still earlier development of the destructive instincts, as only a symptom of the child's passionate desire to create, which leads it to the taking apart of the finished toy in its possession in order to see *how* it is made, thus foreshadowing the analytic and synthetic faculties of the future inventor and philosopher; every child wants "to see the wheels go round;" these desires are readily gratified by the occupations of the kindergarten, the modelling in clay, the blending of colors, the weaving of strips of colored papers, etc.; while the gratification which comes from seeing some result from his efforts, even in the very first lessons in drawing, and the consciousness of increased power which comes as the successive lessons are taken, make this study of progressive drawing an attractive one to most pupils in the public schools.

So much emphasis has been here placed upon the economic features of this discussion of the "pros" and "cons," in relation to this proposed new study, that it has seemed pertinent to refer distinctly to the claims of this study as a means of mental training, and to state that, wholly apart from its value as a means of technical industrial training, it is entitled to as much consideration on account of its direct value as a means of discipline and development of the mental faculties, as are any of the studies now included in the required course in the elementary public schools.

What has caused this sudden and general dissatisfaction with the public school system so long the pride of the country? That the correct answer to this question shall be ascertained should be a matter of concern to every citizen.

In view of the development of the dissatisfaction on the part of many with the workings of the common schools, and of the deplorable want of attendance on any school, by so large a number of children, as is shown by the recent census; and in view of this sudden awakening of the public to a knowledge of the fact, if fact it be, that our public schools are no longer adequate to the performance of the functions for which they were created; and especially, in justice to the great work they have accomplished in the past, and with a sense of the vital importance to the community, that this new question of the decay of their usefulness should be thoroughly investigated, and, if good reasons for this dissatisfaction exist, that some efficient remedy should be speedily discovered; it seems proper that this apparent breaking down of the public school system should be here still further considered.

Why is it that our school system, heretofore the boast of America, the common schools free to every child, the public high schools, with the State universities crowning the system of free public education, and open to all, are just now called in question in the very communities that have most earnestly fostered them; while the right to tax the citizens for their support is sharply challenged? This latter fact, for fact it is, demands investigation.

It is not a sufficient answer to talk about "natural reaction," "the swing of the pendulum," and other such platitudes coined by ignorance to pass current for wisdom. A system which had sufficed for generations, and had won the hearty support of all good citizens and thoughtful men, is not thus fallen into disfavor from caprice.

That it has fallen into disfavor, though never in itself in better case than now, with its machinery perfected, its managers skillful and experienced, indicates some far-reaching cause outside of itself. The schools have proceeded on the lines on which they were started, they are better in every respect than were those to which our fathers and ourselves gave such well deserved praise; why then this wide spread dissatisfaction?

The answer is not far to seek if we will but open our eyes and look about us. It is to be found in the changed conditions of society. In these vital, wide embracing, far reaching changes,—that have come to the whole world during the last half century, and especially to the United States since 1860,—and not in any deterioration of the schools, lie the causes of this discontent. A justifiable, most promising discontent; based on the self-evident truth, that the training of each rising generation must be adapted to its environment.

What is the ground which justifies the taxation of all citizens for the support of a system of free public education?

Why should the public be taxed for the teaching of the children of individuals?

The answer, of course, is that such education is first, a protection t the community, and to be justified by the same line of reasoning tha justifies taxation for the support of the police, of fire engines, of all th machinery of courts, and of all the provisions for the detention of criminals. The argument most in vogue, however, has been, that in a republic where all took part in the government, it was vital to the safet of the state that the citizens who were to make the laws, should be abl to read them when made; therefore the public school system has bee sustained by some, as an essential part of the machinery of our form o government. This argument is open to the serious objection, tha strictly construed, it would place the system of public free educatio upon the lowest basis, and confine it within the narrowest limits.

The true grounds which justify education by the state are based o the general welfare of the community. The invincible arguments b which to justify the comprehensive and logical system of free publi education, embracing the lowest primary school for the youngest children, and the noble state university with its galaxy of scientific, technical, and professional schools, as it exists in some of our States—i Michigan, for example, with its splendid university at Ann Arbor—rest, not only upon the reasons already stated, but upon the sure basis that it embodies a truer conception of the natural relations between the individual and the community than would be expresse by a less comprehensive system; while it illustrates a far higher idea of the value and worth of the man, the individual citizen, to the community of men of which he is but a unit.

This grand system of universal public education, for which the community freely taxes itself, has for its sure foundation the general apprehension by all citizens of the truth, that the most precious possession of a community, be it a town, a state, or a nation, are its men and women; and that, therefore, it is the highest wisdom, the truest economy to so train these men and women, as to make them of the most value and this can only be secured by providing every possible facility fo the fullest development of all their faculties. It will doubtless be conceded that this training should be such as will conduce to peace an order, as will encourage the largest production of material wealth consistent with the welfare of the producer, and as will enable each on with special gifts to develop them them to the utmost, thereby addin to the wealth, power and dignity of the community.

In urging that industrial drawing be taught in all public schools, i has been necessary to so emphasize the practical character and economic value of this study, that the equally just claim of other studies may seem to have been ignored.

As I wish neither to be numbered with those who argue that only the least possible amount of elementary education should be given in public schools; nor with those who, just now, clamor so loudly for a "purely practical education" in the schools, I have thought it pertinent to call attention to the following weighty words spoken by the late distinguished President Felton, of Harvard College, in his introduction to a course of lectures before the Lynn Lyceum, so long ago as 1852. Lapse of time and change of circumstance have, in no wise, weakened their force. When American communities cease to cherish and to act upon these truths, the spirit of freedom will have vanished, though its empty form may long remain.

This distinguished classical scholar was addressing a body of "Lynn cordwainers," an assembly of the working men, the mechanics and their families, of the busy town whose very name has long been a synonym for industry; the truth and power of his words are shown by the fact that they are as applicable to the men who urge to-day a practical education, and who denounce the study of the classics as a sheer waste of time, as they were when first spoken, more than thirty years ago, to that meeting of Massachusetts mechanics. The laws of the development of the mind of man, and the principles applicable to the development of a community of men, do not change, though the circumstances and conditions under which these laws act, may vary with every passing year. Observe the comprehensive definition of a practical education, as given by President Felton:

"The most practical scheme of public education is that which embraces every possible species of culture; the most practical education for the individual—for the working man or the playing man—is the highest and best education he can get. We cannot all do all things; but the social body in its collective capacity, may include all culture.

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"He who, in an affected over-zeal for popular rights, strives to raise a prejudice in the minds of the people against the higher culture of the academies and universities, and discountenances their support; he who would persuade the people that they have no concern or interest in literary and scientific institutions, beyond the common school; that academies, high schools and colleges are nothing to them, or deserve dislike rather than their approbation, since they belong to the rich alone, that ma is a traitor to those principles of fraternity and republican equalit which lie at the foundation of our country's liberties. He who deni the working men, or persuades them to deny themselves and their chi dren, the benefits of a liberal education, cherishes in his heart a syste in more deadly antagonism to the rights of the people, than the mo absolute despotism in Europe or farthest Asia; for it presupposes, n a community of equal men, but a hierarchy of fixed and unchangeab ranks; it assumes that the poor man's son inherits his poverty togeth with his name; that the son of the mechanic must follow in his father footsteps, sending down a legacy of toil from age to age; and it mak another more odious assumption still, that the common occupations the majority of men are, and must be, low and vulgar, that those wh are engaged in them are, and must be, illiterate and coarse in manner are, and must be, incapable of appreciating the great truths of scienc and insensible to the rare delights of art and scholarship.

"Can any thing be less true to American doctrine than this? Wit what a scornful disregard of wealth and the position of the momen Almighty God scatters the priceless gifts of genius among his childre The great poet, the illustrious statesman, the eloquent orator, is a likely to go forth from the brown-faced laborer's cottage over the wa as from the sumptuous palaces of the capital; and the future ruler an empire may have been unconsciously toiling in yonder field to-day!

In view of subsequent dramatic events of American history, as illu trated by the careers of Lincoln, Johnson, Grant and Garfield, eith of whom, that day, might easily have been "toiling in yonder field, each in his turn to become President of these United States, thes brave words of the great scholar, eloquently discoursing on the hig theme of American liberty, assume something of a prophetic strai These great leaders, springing from the people at the hour of nee give, indeed, renewed assurance that, "the rule of the people, by th people, and for the people, shall not perish from off the earth!"

It needs little argument to show that while American common schoo in the past were adequate to the needs of the people, the changed co ditions of the present demand new methods. In the earlier days of o history and indeed down to a period as late as 1870, the education give by the public schools accomplished its purpose passibly well. So larg was the unoccupied territory, so great the influx of foreign immigratio mostly of unskilled laborers, that the demand for American merchant managers, overseers, for men intelligent in the ordinary branches of an English education, just the kind of men that our schools were established to educate, and just the kind that they did and do turn out, was large enough to keep pace with the production of the schools.

The coming on of the great war and the subsequent era of business activity and speculation deferred for some years the discovery by the people that the demand for this product of the schools was lessening rapidly; and that new demands were being made and about to grow urgent, which *the schools were never designed to supply.*

The holding of the Centennial Exhibition, at Philadelphia, in 1876, was, to the people of these United States, a great object lesson, and the one thing it taught above all others was, that for some reason, the citizens of this model republic, with all their boasts and all their free education of the people, were far inferior to the leading nations of the world, European and Asiatic, in all those industries into which the art element enters; and for the first time in their history, the American public had an opportunity to see into how vast a portion of the productions of man this element does enter. It is a truth, for us an encouraging truth, that the re-entrance of this art element into many European manufactures dates back hardly three decades, for the example of medieval art workers had been long forgotten. The lesson of humility taught to our people in 1876 at Philadelphia, was taught to the English people in 1851 at Hyde Park.

Now England teaches it to us, with emphasis, but the example of England is to us full of encouragement, for the steps by which in less than thirty years she has come out of barbarism, so far as her art manufactures were concerned, into the splendor of her present perfection, are easily seen and are perfectly suited for our adoption. What England has done, we can do, and it shall go hard with us if we do not better the instruction; since, in the prevalent systems of public schools throughout the country, the United States has better facilities for a rapid extension of Industrial Art Training, than had England in 1851.

We will pass by this particular phase of our subject for the moment, to consider some other causes which have contributed to the conditions we have noted. When the prolific germs of our present school systems were first planted, we were but a few scattered colonists on the borders of an unoccupied continent; the wonders of steam transportation and the marvels of electrical communications have since revolutionized the world in countless ways. The great war of secession, and the consequent waste of resources have put upon this country burdens of tax tion which would not have been laid upon it in a century of peac In other words, by the war alone this country has aged a century sin 1860.

Owing to these two great causes, we find ourselves to-day in a po tion which would not have come upon us for another century, if tl Nineteenth Century had been no more prolific of inventions than w the Eighteenth.

The inartistic American worker now finds that cost of living ai pressure of competition have both increased, while his markets ha lessened;—his expenses increase while sales decrease.

On the one hand we have a burden caused by the waste of war whi at once gives to us many of the disadvantages the old countries Europe have struggled under, and to escape from which, so many their citizens fled to this new, unburdened land. Our laborers mu hereafter toil many days each year, to pay the annual interest of tl public debt. This means so much less of clothes, of food, of comfo to each working man and his children throughout this whole countr This war tax on labor is not realized because it is collected so indirectl nor, at the moment, is the pressure felt particularly; but it is an activ potent force all the same, and presses on every producer and on eve consumer.

Nothing so shows the innate strength, productiveness and resourc of the United States, as the rapidity of payment of this war debt an the comparative ease with which it has been lessened. In making con parisons with other countries it should be remembered that while the have a chronic state of war, or of preparation for war more costly stil the United States has no such need of taxation and waste.

On the other hand, the facilities of communication and of transport tion have bridged the barriers with which it seemed as if the Almight had encompassed our continent, in order that the American laborer an artisan might be left undisturbed by the rest of the world. There no longer any Atlantic or Pacific; the choicest production of Europe workmen can be put in our stores within fourteen days, and the produc of the skilled workmen of China, Japan and 'farthest Ind' can be sold our streets within sixty or ninety days from the time they are ordere

What does this mean?—It means that our laboring population, addition to the heavy load of taxation which has been laid on them reason of the debt incurred in defense of the Union, must also work competition with the laborers of the whole world, living in countries where they need, or desire, less than our workers demand.

Demagogues are fond of talking about the dangers to our workmen from the competition of the 'pauper' labor of the world. The Centennial showed us that, on the contrary, the labor with which we have to compete, the labor we have to dread, is the '*skilled*' labor of the world.

It will perhaps be asked what all this talk about laborers, and manufactures, and oceans, and steam navigation, and electric telegraphs, and the Centennial Exhibition, can possibly have to do with this question of why the people are not satisfied with the public schools?

It has just this to do with it, that it shows that the conditions which are to be met by the coming citizen who is now having his education at the expense of the State, are so absolutely changed from the conditions which the schools were organized to meet, that they utterly fail in their purpose. Now, if the public schools are to do for the children what they have done for their parents, that is, fit them to be useful, industrious, and self-supporting, as well as orderly citizens, the training the child receives in them must be adapted to the changed conditions under which he is to live.

The schools at present give a simple literary training and little else. The boy and girl, learn to read, write and cipher, something, let us hope, of geography, of natural philosophy, and of the sciences. Well, how will that fit the millions of American laboring men and women, for practically all men and women in this world must work, to hold their own in the competition with the skilled, carefully trained workmen of the whole world, which has been brought to their doors,—which meets you at the door of every shop you enter?

In considering this problem it must not be forgotten that American labor, not only is deprived of the opportunity of profitable employment which the making of these artistic goods would afford; but, in addition, pays all the cost of the foreign art products imported into the United States. Look into the shop windows of our great cities, mark there how many beautiful objects you see that you first saw at the Centennial, and then ask yourself how do they come here? How are they paid for? Who gets the money? These are all questions whose answers are pertinent to this discussion. They come on foreign ships; they are paid for by the toil of American workmen; the foreign sailor, the foreign workmen, and the foreign merchant get the money for their production and transportation, and our workmen are idle for want of the work; our country is the poorer for all that we buy but ought to make.

If foreign artisans and artists are to make all the objects which tast demands, and are to supply this growing craving of the American peopl for works of beauty; if our domestic arts and manufactures are to b destroyed, as our commerce has been, by the substitution of foreign fo native capital and labor; then, there is no alternative but that labor i the United States must be degraded to the coarser employments.

The Centennial forced the solution of this inevitable problem on u somewhat faster than it would otherwise have come; for the Centennial created in the community at large, a new and rapidly growin demand for objects of taste and beauty. The question now pressin for solution is, will the American people train up their own sons an daughters to produce these articles, or will they condemn them to th thankless life of unskilled laborers?

This is the great question which is debated, consciously or unconsciously, whenever the subject of the introduction of industrial drawin into the public schools of the United States is under consideration.

Far distant be the day when the boys bred in the common schools o America shall be willing, or shall be forced by stern necessity, to become mere beasts of burden; such as were the serfs of Russia, the slave of America and such as are still large numbers of the peasants of Europe! Such labor is unworthy a thinking being. Such labor impoverishes a country, because nothing is so unprofitable for a community however profitable it may appear to be for an individual, as the enforce and wasteful labor of ignorance and poverty.

That which makes labor honorable, which gives dignity to toil, is jus that which differentiates a man from a brute,—the application of mind t labor! And, owing to the beautiful order of Nature, the reign of Law which runs through the universe and pervades alike the least and th greatest; it follows, that just in the degree that mind goes into the work just in that proportion the value placed by the world upon the product o that labor is increased.

As inventions add value to products and create wealth for individual and communities, so Art, likewise, enhances values and increases wealth Labor is honored when brains are added to toil. The worker is paid jus in proportion as he puts thought and skill into his work.

That piece of marble cost a few dollars to pay for the labor of cuttin it out of the quarry and dragging it to Florence, some hundreds of year ago; Michel Angelo struck it a few blows with a chisel and its value i priceless; and men go on pilgrimages over lands and seas, just to b permitted to look at it! Raphael makes a few strokes of a brush on a few square inches of canvas; and kings contend for its possession.

Nor is this only because the artist is dead, and the works have been famous for centuries. Living men to-day; Meissonier, Gerome, Alma Tadema, Millais, Holman Hunt, and numbers of other artists in London and Paris, are paid thousands and thousands for work which costs them but a few days, or hours, of labor.

To consider the results of genius and skill when applied to other things, than to such *chefs-d'œuvre* of artistic genius; that bit of steel costs but a few cents, the watch spring maker takes it and when his thought, that is, his skill, has been applied to it, the same bit of steel is worth hundreds of dollars. That lump of crude clay is worth perhaps one cent, but the potter puts it on his wheel, and soon it grows under the deft touch of his forming hand into a shape of beauty; more mind is added to it, and it glows with color; the fiery furnace tries its endurance, and makes it a joy forever; and the money, that the toiling drudge, with his shovel or his hoe, could not win in a long year of labor, is cheerfully paid for that lump of clay plus the thought that has transformed it from a senseless clod to the thing of beauty that is to make glad generations of art-loving men. It was a painful and slow task to pick the seeds from the cotton,—so slow and so tiresome, that the culture of the plant whose product now clothes mankind, was about to be abandoned, when a boy, who had been in a New England school, chanced to see the clumsy, profitless toil, and gave his mind to the problem of how to get rid of this brute work; the result was the cotton gin, by the invention of which, that one man added many millions of dollars to the wealth of his country. The common sewing needle is a very serviceable little instrument and itself the result of the application of thought and skill to the crude iron; but a boy in New England saw the latent possibilities of that shining little bit of steel, and solved the problem of the sewing machine by showing all the world how to do it. It was a very simple thing when he had once put the eye of the needle in its point, but it added immense sums to the world's wealth, besides enriching its inventor.

It would be mere repetition to recount the numberless stories of inventions, the application of mind to matter, with a mere view to utility. In this field of activity the citizens of the United States are unrivalled.

In fitting their pupils for this kind of development, by training their intellects, for these inventions are the outcome of minds trained to think, the common schools have given in the past, efficient education.

We have already seen, however, that it is partly due to this very fecundity of invention, especially as applied to the facilities of transportation and rapid communication, inventions relating to the uses of steam and electricity, that we are now in the midst of this wonderful revolution of the world's industries; and find ourselves laboring under difficulties which the training given in the public schools as heretofore directed, does not fit the pupils, the future working citizens of this great country, to meet.

To recapitulate: First. Owing to the waste and cost of the struggle for the preservation of the Union, we are burdened with a great national debt. This means that more work of the laborer must go to the use of the State to pay the interest and finally the principal of that debt and less to his family; either he must be made more productive, or he himself and his family will inevitably grow poorer and deteriorate.

Secondly. The improvements in steam transportation, etc., bring the product of the labor of the most distant nations, in competition with the labor of the American, in his home markets.

Thirdly. The wonderful advance during the last few years in the beauty of all manufactures, in the tastes of the consumers, and in the skill of the workmen in England and on the Continent, make it far more difficult for our workmen to compete with these foreign workers in foreign markets, in the things they can make; while there are whole classes of manufactures which as yet Americans do not make at all.

Fourthly. The Centennial so informed our own people as to the beauty of the productions of other countries, as to make them dissatisfied with the lack of beauty in those of our own, so that our native workmen find to their surprise that their handiwork is of no esteem; the public demand the work of the foreign artisans because it possesses the artistic qualities which are lacking in the home products.

The American worker thus unexpectedly finds that a most unwelcome and dangerous competitor has invaded the stronghold that he thought invincible;—the home market. Outrivalled abroad, neglected at home, where shall the inartistic American producer turn to find customers for his unlovely wares?

THE SITUATION IN EUROPE AND IN THE UNITED STATES.

The changed relations of Labor not peculiar to the United States — Efforts of other nations to meet the difficulties — The American people not yet aroused to the situation — Wealth of the United States in raw material requisite for art industries shown at the Centennial — This country must continue to develop in the arts and manufactures, if it is to retain any rank among civilized nations — Power abides with a scientific and a manufacturing, not with a merely agricultural people — How introduction of elementary industrial art training in public schools will aid the solution of the problem — The economic test a proper one — The refining, elevating influence of the proposed study — The presentation of the vase to William Cullen Bryant and the poet's tribute to the artist workers in silver.

The changes that have been here so briefly recited, began to develop in the United States as recently as at the commencement of the late war, and have since grown with ever increasing rapidity, receiving their most evident impulse from the Centennial.

As has been shown, a similar revolution in all the industrial arts has been long in progress in Europe; and the nations are eagerly rivalling each other in their efforts to train up skilled artists and artisans, to meet the demands of modern taste, and wide spread intelligence. Their efforts, in these directions are comprehensive and unceasing. The nations of Europe begin with the children, and in England, in Belgium, in France, in Germany, in Austria, in Italy, and in Russia, all manner of experiments to ascertain the best methods of training skilled artistic workmen by beginning with the definite education of young children, are actively in progress.

This increased activity in the countries of continental Europe in initiating the direct educational training of the people in artistic industries, was marked by the founding of an entirely new class of public museums; in which were collected such examples of mediæval art workmanship as could be procured. The model of these new institutions was evidently the South Kensington Museum. Important museums of this class were founded in Vienna, in 1864; in Berlin in 1866; in Nuremberg, in 1868; in Weimer, and in Dresden, in 1869; in Leipsic, in Hamburg, and in Pesth, in 1874. While in Stuttgart, Gotha, Cologne, Mayence, Darmstadt, Karlsruhe, Munich, Salsburg, Bamburg, and Augsburg, smaller museums of the same class have been formed during the past few years. Ten years ago Germany had some three hundred technical industrial schools in operation and Austria had about one hundred; while in both countries industrial drawing was commonly taught in the elementary schools. Full accounts of many of these schools and museums will be found in the Appendices to these volumes.

It is evident that the people of the United States are not yet generally roused to the pressing importance of providing such training as shall prepare the new generation to cope with the changed conditions of industry. Although, as we have seen, the people of Europe have, for several years, been making every effort to accommodate themselves to the new conditions; in the United States, except in a few sporadic instances, the common school education of the children goes placidly on in the old ruts. In a few wide awake towns and cities, there is some interest manifested and some effort made, to begin to meet this new industrial warfare by introducing the new methods of drilling and equipping the industrial armies; but the great mass of the people are, as yet, indifferent to the situation, though, while they may not know all the relations of the problem, they are conscious that for some reason it is more difficult than it was years ago, for the American school boy to enter upon a prosperous career; formerly industry and integrity, were all the capital needed, now, these alone, essential as they ever must be, no longer suffice, for an amount of definite knowledge and technical skill, then undreamed of, are also requisite.

In view of the facts recited, is it strange that complaints have arisen that the public schools no longer give the training needed to equip the young citizen for the business of life?

What *is* needed? It seems too clear a proposition to waste time in its demonstration, that if the United States are hereafter to hold rank among the productive, powerful and cultured nations of the world, it must be by such a development of her abundant natural resources, (these were fully shown to the world at the Centennial, and the fact that they were amply sufficient for all needs was conceded,) as shall not only enable her to contend with them on equal terms in the markets of the world, but as shall cause other nations to seek her productions in exchange. No fact in political economy is so well settled as that the exporters of raw material receive but little over the bare cost of its production, for the evident reason that otherwise the consumers would produce it themselves, instead of buying it; it is the manufacture of raw material, the putting mind into it, that enriches a people.

From an agricultural community, the people of the United States must, of necessity, with accelerated strides become more and more a manufacturing people; such is the world's development that to be successful it is clear the manufactures must become more and more artistic, that is, they must possess the art quality.

The wearisome monotony of countless repetitions of machine made ugliness, will no longer be endured by a people who have once seen what infinite variety and beauty is possible, when Art inspires handicraft and idealizes industry.

In this fact lies our hope, for the essential quality of Art forever divorces it from machinery. The machine itself may be the embodiment of the profoundest, subtilest thought; may be a work of art in the truest sense; but the products of that machine,—save only as the term "machine" may be technically applied to the limited class of the simpler mechanical aids to expression; such, for instance, as the pen of the writer, the chisel of the sculptor;—must needs lack the very quality which the term "art," implies. The more wonderful the machine, the nearer automatic in its complex action, the less the art quality of its products; because, in the addition of mind to matter, the patient weaving of the thought into the fabric, the skilful hammering of some conception of strength, or grace, or beauty, out from the malleable metal; the careful chipping off the rude envelope of stone from the tender form which the eye of the inspired artist has seen there imprisoned in the marble; in each and all the multifarious processes known to Art, whereby the ideal is embodied in the real, the creative soul counts! The human worker is the one essential factor.

The man stands erect; differentiated by this single power of creative expression, from all other known animate or inanimate existences. By this one act, the artisan becomes the artist; the toiler a creator; the slave a freeman; thus work becomes joy!

"The labor we delight in physics pain" said wise Shakespeare long ago.

In this world all men and women must work; it is the law of life, the only path of progress. The only choice given, is, shall your work be good work, work that you love, work that helps you and helps the world; or, shall it be bad work, slave's work—debasing, hopeless toil, such as now, for millions of men and women, robs life of all joy?

How shall the school children of this fifty millions of people be taught, so as to give them joy in their work?

What then shall be done? The rational remedy would seem to be the adaptation of the public school courses of study to the new conditions, so that the needed training can be given.

It no longer suffices that the child can read his own language, it has become essential that he should also comprehend the universal language, the language of drawing; that he should readily read and write that language, that he should learn if possible to think in that language, so that he himself may be able to design and create, as well as to fit himself to carry out the designs and creations of others; more than this, it is desirable that his fingers, as well as his eyes, shall be trained, that he shall be familiarized with the use of implements, and shall be taught how to use them to the best purpose, for there is a right way and a wrong way to do everything, and the pains and time necessary to be expended in acquiring an education are greatly lessened if the pupil has to unlearn nothing. Can these new demands be met by the public schools? Undoubtedly they can.

This reply may be given unhesitatingly since it is a matter of history that England in 1851, found herself face to face with this problem of how best, and most speedily, to create a population of trained artisans to recover for her the supremacy she had unwittingly lost.

England solved this problem successfully. How did she do it? She did it by beginning at once to teach industrial art to the children, while at the same time she provided, by every conceivable method, for the improvement of the growing and adult artisans.

The history of this bloodless war is as interesting as, and far more instructive than, many a chapter of her history which details the stories of foreign conquest. England had then no such sufficient machinery at her hand as we in these United States now possess in our universal system of public schools.

And again it may be asked supposing that your wishes have been acceded to, and that the school children of the United States have been taught, as you desire, so that they are all more or less qualified to become producers in the artistic industries, where and how shall they find employment? Who is to buy the works they make?

In reply we may be permitted to also ask do not shoemakers wear shoes, and tailors garments? Do not carpenters live in houses, and bakers eat bread? Every new industry makes its own consumers, and civilization, does it not reveal itself by the new wants it discovers for man?

Man the unsatisfied, ever craving animal, who, when life is assured, wants comfort; and, comfort once attained, demands luxury. Whose wants are as illimitable as is the immortality to which he aspires.

This great army of future producers of the beautiful results of art applied to industry, are also to constitute the great body of consumers of these articles. The child who has been taught in the public schools the value of drawing, the charm of artistic combinations of color, the ease with which the articles of common use can be made attractive instead of repulsive, will no longer be content to live in the midst of ugliness.

The Centennial Exhibition taught the people of this country how beauty enriches all the appliances of life; the study of drawing in the common schools will teach their children how things are to be made beautiful, and these thousands upon thousands of home missionaries of the beautiful will create every where such a demand for the element of art in all manufactures, that they will compel the manufacturers to seek to comply with this demand, or, to yield their markets to foreign competitors.

When the manufacturers look for the skilled workmen who alone can enable them to enter into this competition successfully, behold here are the youth from whom they can be speedily made, in the army of bright boys and girls, whom the public schools, by educating their eyes and fingers, have thus fitted to become self-sustaining producers.

In a far shorter time than was required in England, America can, if she so elect, step into the front rank of the manufacturing nations of the world.

The economic test is a just criterion. Whether training in industrial art will repay its cost to the community is a pertinent question; if it will not, then it ought to be condemned.

If I have given so much time to demonstrating the money value of this study, if I seem to have forgotten that Art "is the Goddess Great," and to have joined those who only see in her "the milch cow of the field,"

> "Who only seek to calculate
> Just how much *butter* she will yield,"

it has been in a willingness to meet objectors upon their own ground. We may perhaps think it a low ground, but it is, after all, by a sure instinct that the public demands of any innovation that it shall pay, pay in the lowest, the pecuniary sense, as well as in the highest, the sentimental sense; for such is the consistent unity that pervades this ordered universe, that, that which is best esthetically, is best economically. If this study of industrial art is really what it is claimed to be, if it has a right to enter in to the prescribed course of our public schools, it must be because it will repay to the community all its cost; because it will enable the children to earn more money when they take their place in the ranks of producers than they could without it.

That it will do this, I submit, has been unanswerably demonstrated by the experience of England; so that, upon the ground of economical expediency, its right to become a part of the required curriculum of the schools, can no longer be questioned.

Assuming this point as settled, let us for a moment, consider the claims of this new study on other grounds. Let us look at its educating, refining influence.

Based as it is upon geometry, it gives exactness to the thought, as well as requires it of the eye and hand. Compelling the eye to close observation it teaches it to see, and behold a new world opens before the hitherto heedless child, who is thus endowed with the perception of natural beauty; a gift that will enrich and gladden all his after life. For him, there is everywhere, now first apparent, the exceeding and marvellous wealth of varied beauty which abides in the forms of external nature. The curving branches of the wide spreading elm or the drooping willow, the delicate leaves of the upspringing flower, the softened lines of the sloping hill side, and the grand masses of the majestic mountains, as they lift themselves sublimely toward the heavens, all these, have for him a meaning, and a joy, never before suspected. He has become apprehensive of the significance of form, and at once his eyes are opened on a new heaven and a new earth. His education in art progresses and he is, in due course, initiated in the mystery of color, he begins to observe colors, to discriminate tints, and, to his amazement, he discovers that all nature is vocal with these tell-tale hues. The clouds speak to him with a thousand tender or threatening tones, the sky appeals to him by day and by night; the spring softly whispers her coming, in those faintest flushes of color that make tremulous the boughs of the leafless trees, that had ever before seemed to him bare and barren; every variation of light and shade, every slightest change of hue, every subtlest blending of tint, has now for him a meaning and a charm ineffable. Day by day, during the long procession of the months, he walks through palace halls hung with hangings more splendid than tapestries of Tyrian dyes; he gazes on forms whose grandeur and beauty mock the sublimest efforts of builder and sculptor; he looks upon colors, whose hues outglow the canvases of the painter, and defy the subtlest skill of his art.

What passages of eloquence have been uttered over the wealth of companionship into which he was ushered who had been taught to read; in whose hand had been placed the key that unlocks the garnered treasures of man's wisdom recorded in books; but what description of the beauties of nature can for an instant rival the reality?

Into what more august presence is he ushered, with what divine companionship is he endowed, from whose eyes the scales have fallen, and who has been taught to see the ineffable and inexhaustible beauties of the works of the Divine Artist? Life for him, henceforth, can never be lonely or ignoble, he is free of all the boundless domain of Nature!

This study, then, opens to the wealth of external nature on the one hand, on the other, it opens the halls of history, and rebuilds, to the youthful imagination, the temples and palaces, of the past.

The works of man appeal to the youthful aspirant for knowledge, as do the works of nature; he looks upon them with an intelligent eye, and they open to him their stores of knowledge. Mediæval Europe, Rome, Greece, Egypt, Assyria and India, all appeal to him from the remote, speechless centuries.

Those historical forms of Art, those established orders of Architecture, which he draws upon the school blackboard, are so many windows, through which the student looks upon the past as from a watch tower. To know history is no longer simply to be familiar with what men of the past have said, but it is to see what they have done,—what their builders builded, and their artists wrought.

Thus, then, this new study is the vestibule through which the aspirant may enter the grandest temples of knowledge. Opening both to a knowledge of the world of nature, and of the works of man, is not its claim to be included in any scheme of education, however elementary or however advanced, fully established?

There is one suggestion more. Is it not worth while to give to those whose destiny in life must be to work, that training which shall make them most effective, and which shall make their work a joy, and their lives happy and contented, instead of dark, gloomy and wearisome?

In this life which is so brief, of which, at best, so little remains, will it not be a satisfaction if our labor is given to Art that endures, rather than to those things which perish in the using?

Many of my readers may have seen at the Centennial that exquisite silver vase, known as the Bryant Memorial vase, made by Tiffany & Co., American silversmiths, and in itself an evidence of the excellence of American artists and artisans, and a beautiful witness to the love and reverence felt by his countrymen for the venerable poet.

Listen to his modest words in reply to the speech of presentation; words pregnant with truth, words that may well be the requiem of the age of American talkers and writers, the prophecy of the coming age of American art:

"My friends, we authors cultivate a short-lived reputation: one generation of us pushes another from the stage; the very language in which we write becomes a jargon, and we cease to be read; but a work like this is always beautiful, always admired. Age has no power over its charm. Hereafter some one may say, 'This beautiful vase was made in honor of a certain American poet, whose name it bears, but whose writings are forgotten. It is remarkable that so much pains should have been taken to illustrate the life and writings of one whose works are so completely unknown at the present day.' Thus, gentlemen artists, I shall be indebted to you for causing the memory of my name to outlast that of my writings."* So the grand old poet, the artist in words, paid his homage to his fellow craftsmen, the workers in silver!

"Art is long, life is brief" said the sententious ancients; an English singer, of our own day, thus expresses the same thought:

"All passes. Art alone
  Enduring stays to us;
The bust outlasts the throne,
  The coin Tiberius."

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*Edmund Waller, an English poet, in a short poem entitled "Of English verse," expressed, two centuries before, a like want of faith in the permanence of poetry written in English. His words are of interest also as showing the opinion of his own times, in which poets, scholars, and philosophers translated such works as they desired to perpetuate into one of the learned languages, then the common tongues of European scholars.

"But who can hope his line should long
Last, in a daily changing tongue?

* * * * *

Poets, that lasting marble seek,
Must carve in Latin or in Greek:
We write in sand, our language grows,
And, like the tide, our work o'erflows."

PUBLIC EDUCATION—INCREASE OF WEALTH IN THE UNITED STATES.

Public education in the United States — Its claims to support — The Present ever indebted to the Past for educational institutions — Consequently education is a debt ever due from the Present to the Future — A wise economy called for in matters of education as well as in all other public undertakings — This question of public expenditure one of due proportion to available resources — The increase of wealth in the United States necessitates changes in the social surroundings, and in the training of future citizens — Some of the sources of this immense and rapid increase of wealth — Some of the results — The building of the wonderful system of railroads — Their function, as factors of civilization — An era of Display approaching — The Palace building age already begun.

The logical and complete system of public free education beginning in the elementary schools, progressing through graded grammar schools to the High and Normal, and culminating in the State University, as adopted by many of the younger States of the Union, has been ably defended against charges of injustice in that the burdens imposed upon the whole people by the support of the High schools preparatory to the University, and of the University itself, were burdens imposed upon all for the benefit of a very small minority. The argument is twofold and rests first, upon the primal necessity to a country of such institutions of high education, because of the great importance to any community of a class of citizens possessing high culture, and of the injustice of excluding any one who could profit by this culture, from the opportunity of obtaining it, simply because of poverty; and secondly, that in providing these institutions there was no injustice to any class of citizens, because, while the public elementary schools were numerous, it being the theory, that every child in the community should be able to find place in a public school,—however far from sufficient this provision of school houses may be in fact,—the higher schools and the University were relatively so few, that there was no real disproportion of facilities offered to burdens imposed.

If the argument were adduced that, in fact, very few children of poor parents entered the higher schools or the University, the reply might justly be, that if so, that proved nothing against the theory; for, all citizens being equal before the law, the children of the prosperous citizen who himself paid a proportionately increased share of taxation, were equally entitled to such opportunities of education as might be desired, with the children of poor parents with different desires.

In all discussion concerning the relations of the public to education it should be remembered that the Present is ever indebted to the munificence of the Past for institutions of learning. All education then, especially that given by incorporated colleges and for which students pay tuition, is directly or indirectly provided by the public; not by the individual taught.

It has ever been the fact that institutions of higher learning have been eleemosynary. They have either been endowed by Soverigns, or States, by wealthy individuals, or by associations of citizens, for the benefit of the community; it being always and in all lands recognized, that the wealth of no single person was equal to procuring for its owner the appliances and means requisite for the higher education. Prince and Noble, Dives and Lazarus, have, equally and alike, been dependent upon the bounty of Learning; have been recipients of her gifts. The learned and the liberal of all ages have recognized this debt to Humanity, and nobly have they responded.

The student of to-day at Oxford and Cambridge, or at Yale and Harvard, however much he may contribute from his own personal resources towards the cost of the opportunities afforded him, can never free himself from his obligation to those old time benefactors; literally, as well as figuratively, he is a pensioner upon their bounty. He can only liquidate his money debt by like action which shall make him a like creditor of posterity. John Harvard, Elihu Yale, Ezra Cornell, Stephen Girard, Johns Hopkins, George Peabody, Peter Cooper, and Paul Tulane, are but typical instances, out of an ever growing throng of liberal, public spirited citizens, who thus seek that their good will to man and their personal benefactions shall long outlast the brief limits of their earthly lives.

Thomas Jefferson, the great founder of the University of Virginia, in some respects the most liberal minded and far seeing of America's early statesmen, stands as initiating in the United States the type of the modern University, founded and supported by the State, as the crown of its system of public education.

It is not to be inferred from this passing allusion to the historic contest as to whether any, or a limited as contrasted with a complete, system of free public education should be provided by the community that there is any purpose to here reopen that discussion.

For the matters we are to consider, this question is to be held to have been definitely closed by the decision of the American people as a whole, to give to their children the fullest and best possible free education and training for good citizenship.

Our only purpose is to inquire first, how far the merely literary training which is alone generally understood in considering this topic of popular education, supplies, or fails to supply, this recognized need; and secondly, how far, by either public or private instrumentalities and institutions, facilities now exist for the practical introduction of industrial and other art training into the systems of public instruction, as the complement of the present confessedly unsatisfactory methods.

A wise economy must be exercised in matters of education, as well as in all other matters relating to the common weal.

Under all questions of public policy lies the economical problem; for communities, or aggregations of individual citizens, can no more indulge in expenditure, however good and desirable in themselves are the objects for which the expenditure is to be made, without due consideration of ways and means, than can individual citizens. Injudicious and extravagant expenditures prove alike disastrous to the individual and the community; as many an ambitious town, too early emulous of city pavements and public improvements; or county, overpersuaded by plausible advocates to unwise assumption of debt in aid of some otherwise desirable railroad, has learned, by bitter experience, during the past two decades. Even sovereign states and their creditors have, in some not-soon-to-be-forgotten instances, suffered under the burdens left as the legacies of unremunerative expenditures.

The question then is, not simply whether a given object is desirable or not, other things being equal; but it is whether, to the community as a whole, it is so desirable that, with due consideration of other needs and of the available resources of that community, the requisite expenditure can be wisely undertaken.

There has been a time in most American communities when the log house, for dwelling and for school or church, was altogether the most appropriate, and, therefore, the most beautiful, building.

It would have been as absurd at that period in the life of the infant settlement, even if by great sacrifice of other vital interests it could have been accomplished, to have built a palatial mansion for the individual, or an imposing edifice of imported stone or brick for the school or church; as it would be to-day, to build upon a corner lot in the fashionable quarter of New York city, such a hut of logs, as was neither wanting in dignity nor utility, in the little settlement of similar buildings on the edge of the frontier forest!

This principle of harmony, of fitness, of proportion, of the due adaptation of means to ends, and of the relations of individuals to their surroundings, runs through all things spiritual as well as material, and is the key to many a knotty problem of political economy. It is the golden rule in all questions relating to works of art.

It is this change in the condition of the country, indicated by the contrast just drawn between the frontier log hut and the Fifth Avenue mansion, which has made imperative a re-consideration of the aims, and a recasting of the methods of popular education.

Not since the mines of Peru and Mexico poured their Pactolian streams into the coffers of Spain, has the world witnessed in the case of any single nation, any such rapid and immense increase of material wealth, as has gone on in these United States during the last forty years.

The sources of this wealth have been so varied, the places of its production and of its concentration, so extended and so numerous; the methods of its expenditure so infinite in variety, that its magnitude has been hardly suspected.

As European nations failed to comprehend the might of the giant power growing up beyond the Atlantic, until awakened to a realization by the trampling of armed hosts whose tread shook a continent; so, few Americans, boastful as we may have been of our progress, have at all realized this rapid increase of wealth, and the concentration of enormous fortunes in single hands; or, what immense powers lay concealed in these thousands of miles of iron roads; until, suddenly awakened to a perception of the startling facts, by a knowledge of the immense operations, by which the men who controlled the roads, as represented by a Scott, a Huntington, a Gould, or a Vanderbilt, were found to have arrogated to themselves the inland commerce of a continent, and to number among their retainers an army of trained followers. In addition, through the vast interests affected by these lines of transportation, and the many and powerful communities linked by them in common interests, these Rulers of Railroads are able to concentrate so large a number of the members of the Representative Assemblies for any purpose they desire, as give to them in Legislatures and Congress, a power to shape the legislation of the States, and of the Nation; such as in their own countries few European Princes, or even Kings, can command!

Much of this increase of wealth is due to the influx of foreigners who as laborers are wealth-producers, and who in addition often bring some store of accumulated possessions; much has resulted from the discovery and acquisition of the treasures hidden in the earth, petroleum, and the precious metals, as well as from mines of coal, iron, and copper. Much more has been developed by that fecundity of invention which, in a thousand ways, has multiplied the productiveness of labor; that labor which, thus reinforced by machinery and ingenious appliances, has cultivated and garnered the marvellous crops of grass and corn, wheat and cotton, which feed and clothe the world. Much has been absolutely created, by the application of science and ingenuity to materials otherwise worthless.

In illustration of the boundless possibilities existing in Nature, Emerson somewhere calls attention to the fact of the importance to the world of the cotton plant, and remarks that this is but a single one of hundreds of individuals of that Kingdom of Nature, each one of which is doubtless likewise capable of being of use to man. In the products and in the forces of nature, what powers, what secrets, and what treasures, await the coming discoverers and inventors! When wood began to fail for fuel, anthracite coal was discovered;—when the whale was almost exterminated, petroleum was found; when sails were too slow, steam was applied; now that steam proves a laggard, comes electricity. Everywhere Nature seems infinite. Considering with what rapidity from these new sources, wealth and power has here accumulated, and also the increase in the number of minds capable of searching for these hidden resources of Nature, the possibilities of future developments and of accumulations of resources dazzle the imagination. In this multiplication of powers and of resources a single man becomes a host.

In the rapid development of a vast portion of the earth's surface, unsurpassed in fertility and marvellous in resources, is to be found the secret of this magic increase of wealth. Increased expenditures are the natural results of this increase of wealth,—this renders great social changes inevitable. Impelled by this enormous accumulation of riches, made possible by two and a half centuries of industry, the nation is now entering upon a new era.

The eras of the struggle for existence; of the building of highways; of armed contest for sectional control of the national power; all are ended, the new is just begun.

At last the wilderness has been tamed, the land made fit for habitation, the rivers bridged, the electric web of wires woven all over the continent, and those most essential factors of civilization, the roads, the great highways of travel and traffic, have been built. Following the sun in his course, they lead from ocean to ocean; or, rivalling the majestic rivers, that thread the continent,—those inimitable highways of nature,—and reaching out, with subtile instinct, for the profuse spoils of the tropics, they bind the restless waves of the great inland seas, wind-swept by northern breezes, to the sunny rippling waters of the southern Gulf.

And what roads! Straight to their courses; heeding no obstacles, conscious of no difficulties, they stretch far away over prairie and savanna; along the perilous edge of the precipice, climbing the cliff, crawling up the mountain side; or, fearlessly plunging into the darkness underneath the superincumbent hills; across bridges, whose massive towers, like beetling crags, frown upon the subject tides below, while their giant cables swing above the abyss with the airy lightness and grace of the spider's gossamer filaments; or, on curving arches, whose solid masonry emulates the upspringing elasticity of the bended bow; or, over skeleton trestle work, built, story upon story, above dizzying depths; go these wonderful roads! They span the river, they leap the torrent, they rive the mountain! Over the Alleghanies; across the Rockies; through the Sierras! Wherever they go, whether penetrating the primeval forests of the north, or across deserts of sage brush beyond the plains, or amongst the yawning cañons and desolate mountain fastnesses of the Sierras,—there, as by magic, towns and villages spring up!

It is as if the road builder were the true necromancer,—for, far beyond the seas, among Bavarian Highlands, or along flat Prussian plains; under the shining crest of Fusyama, or by the edge of the China Sea; the peasants are filled with strange longing to follow their shining trails. Wherever the slender lines may lead, there go the motly people from every clime, who are crowding here to blend in a new civilization, whose form and whose outcome, no man can predict. How, from any catalogue of the sources of wealth, could these wonderful roads be omitted? Surely, the rail of steel, in the hands of a true road-builder, is a more potent wand of wealth than twisted branch of witch hazel, or divining rod of Wizard!

The Romans are known as the great road builders; but, their massive highways were to our lines of steel, as their clumsy, springless chariots to a Pullman car!

Thus, after more than two centuries of preparation, the works of absolute necessity have been done. The past twenty years, during which the latest appliances of science have been available for works of construction, have seen more accomplished in the execution of these great public enterprises, and in the opening up of vast territories for settlement, than, under former conditions, could have been done in two hundred years. Now comes the era of display.

Upon the theatre of human history, across whose stage have swept in seeming interminable procession, the proud pageants of prosperous peoples; Persians, Assyrians, Egyptians, in stately splendor; Greeks, Macedonians, Romans, with tumultuous blending of arts, and arms, and luxury; the Mediæval Rulers and Potentates, the Lords of Italy and Spain, of France and England, while, preceding and overshadowing these later monarchs, we behold the august presence of the white robed wearers of the triple crown, with their long drawn train of Cardinals, Emperors and Kings, moving in a more than royal progress.

And now, heralded by the hopes of humanity, symbolized in the colors of morning upon the star sprent banner that, at its birth, was hailed as the Aurora of the dawning day of freedom for Mankind, approaches with stately step, Earth's latest Power, The Great Republic; whose People, trained in the stern schools of self denial and poverty, long inured to work and to war, now find themselves possessors of enormous resources. What splendors await the beholder! What new scenes of luxury and magnificence are about to be unrolled!

These vast fortunes, not now needed for the building of railroads, wait for opportunities to enhance the importance of their owners; for it is no longer enough to possess power, the fact of its possession must be demonstrated by its use. First, the newly rich man seeks to show his wealth by a larger house, by finer equipages, by magnificence in his manner of living and by costly appointments, then, as culture increases, by the articles that culture demands.

The opportunities afforded by the accelerating development of the resources of the country, and by the individual possession of such vast fortunes, as a few years since, would have been deemed incredible, must result in great social and economic changes. When, in addition to these especial and local causes, we consider the tendency of civilized man to crowd into cities;—it seems probable that the centering of population in the larger towns and cities, which, all the world over, has been so marked a feature in the movements of population, during the past few decades, will go on in the United States in a rapidly increasing ratio; and, also, that the number of large individual fortunes will as rapidly multiply.

In these two circumstances we have all the factors of a remarkable development of magnificence in all the surroundings of human society; such as Spain saw in the fifteenth century, when thousands of monasteries and churches were erected with palaces innumerable; such as the famous cities of Italy knew, during those eras in which the stately palaces of Genoa, Venice, and Florence, arose; when, throughout Italy, all the arts flourished with a splendor that still dazzles the world, though their chief treasures are scattered, their palaces debased, and their traditions almost forgotten.

Like causes may ever be relied on to produce like results. Given the present conditions in the United States, and the student of History could hardly fail to predict the speedy advent of an era of sudden and splendid art development.

By this, I by no means intend to assert, or to imply, that High Art is the logical outcome of extended sovereignty, or of great wealth; that the richest and most powerful people is, therefore, the most artistic. The contrasting legacies left to the race by Art loving Athens and by all conquering, opulent Rome, eternally disprove the fallacy. Nor, thirty years ago, would a sight of the ugly and monotonous streets of London, even then the strong store house of the world's treasures, have afforded arguments for any such belief.

The conditions to which I do refer are complex; first, patronage of art and ownership of art works has become a fashion among the rich; second, some knowledge of art has been, and is being, widely disseminated among the people of this land; thirdly, a great revival of interest and activity in all matters pertaining to art in all its forms, has been going on for thirty years all over Europe. Whatever stirs the thoughts or arouses the desires of Europeans is quickly reflected in the United States.

Art enthusiasm is general, opportunities for training in the study and practice of art are accessible, while remunerative employment in the art industries seeks the skilled worker. Opulence is certain and with it vast expenditures; these do not secure the production of good art, but they afford it opportunities which in the past were often availed of, and if, with the sensitive organization of the American youth, artists worthy of the opportunities do not arise, to give to America the immortal lustre of Art in place of the transitory glory of gold ;—it will be because the Race here, has fallen from its high estate.

A great advance in architecture and the decorative arts is to be anticipated. The art of architecture and the subsidiary decorative arts, will be first employed ; fashion will busy itself about the adornment of the person, the equipage, the table, and the house. Such demands have already arisen and must inevitably increase, for the Palace building era has begun.

Long ago, in the prosperous maritime towns of Massachusetts, around the Battery in New York, on many an hereditary colonial estate in Maryland, Virginia and the Carolinas, there arose stately mansions, inspired by the architecture of the days of Queen Anne, or, later, by the classicism that followed in England, and that, in America, was adopted in the design of the early public buildings of the nation's capital city. Later, the Mississippi, as it neared New Orleans, seemed, for an hundred miles, but a broad avenue lined by large and imposing houses, seated each amidst carefully kept grounds, while, in the rear, stretched far away the broad acres of the fertile plantations ; these were the fitting residences of a class of wealthy proprietors, who in the surroundings of their home life, resembled the hereditary landed nobility of monarchical countries living on ancestral estates, rather than any class of their own fellow citizens living in other parts of the country. Still later, the rich merchants of New York gave to the solitary romantic wilds of the Hudson the charm of human interest, by building, on commanding sites, picturesque castles, commodious villas, and substantial Manorial Halls ; while, by erecting similar suburban dwellings on the edge of the Bay, and the shores of the Sound, they gave to the water approaches of the city a series of enchanting views of fair and stately homes,—often as rural in their surroundings as if far remote from town or city.

Whether the traveller, approaching the metropolis, floated southward, borne upon the smooth flowing stream of the mighty river debouching from its far off Highland fastnesses ; or first saw the lovely slopes of Staten Island, ever smiling welcome to incoming ocean wanderers ; or, over the sparkling waters of the sunlit Sound, caught glimpses of the cool shaded villas, nestling amid the willow embowered meadows that fringe the low shores, which recall by their sylvan beauty the lovely reaches of Thames above Richmond; (though the sweeping rush, beside the turfy banks, of the tided waters that here pour tumultuously between the ocean and the sound, is all unlike the placid smoothness of that historic stream, which, all unconscious of the tides and fleets of ocean it is soon to know—still mirrors on its surface trees whose tremulous shadows, in summers long ago, were seen by poets, and lovers, and idlers of the days of Queen Anne, as now by those of these Victorian days;) by whatever waters then, the traveller came to the island city, towering amid the encircling masts that cluster around it, like the body guard of lancers around their sovereign, he saw, on every side, in these smiling homes, the indications of wealth and comfort, that befit the surroundings of a powerful and prosperous commercial city.

The changes that have since been wrought in the aspect of these once incomparable approaches, changes due to pressure of population and greed of gain, need not now be recited; while the majestic towers and graceful outlines of the Brooklyn bridge may well plead in extenuation of many atrocities and much reckless despoilment of sylvan beauties, for, in that noble *chef d'œuvre* of the engineer, the work of man is in harmony with the noblest natural features of the scene.

In view of the previous statement of the lack in the United States of the means of general art culture,—a lack hardly conceivable to those familiar only with the towns and cities of Continental Europe,—this reference to American homes seemed due to the truth that, hitherto, life in the United States has not been wholly barren of comfort or elegance, nor devoid of the appliances of wealth, nor without some suitable degree of decorous dignity and display.

In extenuation of the positive ugliness that characterized the external architecture as well as the household furniture, in vogue in England not only during the reign of the Georges but far into the Victorian era, it has sometimes been urged that the people were then so busy in providing for the domestic comforts, and the various appliances within the home that diminish labor and add to the ease of living, that they were oblivious to exterior appearances. There is doubtless a grain of truth in this, though one wonders why it was that the beauties of the Queen Anne architecture just now so be praised here, should there, so soon have ceased to inspire imitation.

Whatever was the cause in England of the indifference to beauty of surroundings, it was augmented in America by the pressing demands of the works of construction that were needed in the development of a vast, unsettled territory; besides, it should be remembered that, despite their political separation from the mother country, the quondam colonists still looked to England for models for imitation; and buildings and furniture were scrupulously constructed after the fashions that there prevailed. The ugliness of the Georgian era was faithfully repeated throughout the United States; and, as much of the newly made elaborate American furniture shown at the Centennial gave proof, long survived.

It is to be hoped, since the English seem to have awakened to a perception of the essential ugliness which pervaded all the works of that period, that Americans may, before long, be led to discard it forever; but one may, perhaps, be pardoned for expressing a desire that the future development of architecture, and of the art industries in America, may have more sure foundation than is secured by inane imitation of any passing foreign fashion.

Many Americans following the prevalent fashion of foreign travel have seen for themselves the important part played by Art in the cities of Europe, or, by visiting the frequent International Exhibitions, held from time to time in various countries during the past few years, have informed themselves as to the extent and value of the myriad applications of Art to Industry. In addition to whatever effect may result from the influence of this class of travelled Americans, the opportunities afforded by the Centennial Exhibition at Philadelphia, to so many untravelled Americans, to see for themselves how it was possible, in all the appliances and surroundings of life, to substitute beauty for ugliness, give assurance that any such ignorant adoption of ugliness can hardly again become universal in the United States; but, on the other hand, neither can a perception of symmetry and beauty become universal, until definite instruction in the laws of proportion,— the laws that surely underlie harmonious beauty,— shall become a part of the elementary education of the people.

Although, as has been here recorded, comfortable and costly houses were numerous, not only in the cities and towns, but also on estates, and in suburban neighborhoods throughout the United States; and though the increase in general prosperity and in individual fortunes, has been very noticeable during the last two decades; there was, till very recently, little or no indication of the coming of any such era of architectural development in these United States, as is characterized by the building of costly and splendid private palaces, as well as by the erection of noble and significant public buildings. Occasionally, some one among the mining millionaires of the Pacific coast attains sudden and wide-spread notoriety by lavish outlay upon a house; or some banker, railroad magnate, or lucky speculator in the Eastern States builds for his country residence a great pile of buildings in some rural district to be the nine days' wonder of the neighbor rustics; often, as it proves, to serve only as an enduring monument of its owner's ostentation, and of the brief duration of his fortune. Each large city could count some such examples; but, so far were these individual instances from indicating any pervading impulse towards the creation of an artistic or splendid domestic or public architecture, that even in the prosperous and ever growing metropolis of New York, which each year added mile upon mile to the streets of sombre, monotonous, costly brown stone fronts of the house builder, which served as the homes of its rich citizens; there was, in all the vast city, hardly a single private residence noteworthy for any architectural feature, by which it was known to the public, other than the large white marble building standing on the northwest corner of 34th street and Fifth avenue, built for his private residence, shortly before his death, by the city's richest dry goods merchant, the late Alexander Stewart; nor, out of the many costly churches, and other public buildings of the city, were there a dozen architecturally noteworthy.

Among such exceptional buildings there may be mentioned the stately massive granite structure on the corner of Wall and William streets, once known as the Merchants' Exchange, now the United States custom-house; the present Sub Treasury building at the corner of Nassau and Wall streets, once used as a custom-house; both of these having the columned porticoes of Grecian temples; one or two bank buildings also in Wall street; Trinity Church, an admirable example of Gothic architecture, with its symmetrical spire then towering skyward far above all other buildings; St. Paul's, with its attractive steeple, copied from one by Sir Christopher Wren; the old City Hall, a copy from Fontainebleau and still the most interesting, architecturally, of any building on that park; the granite Astor House, effective by its massive simplicity; and the huge pile of the granite post-office building,—of very recent date;—these were all far down town.

Grace Church, Broadway; the Academy of Design, Fourth avenue and 23d street; Trinity Chapel, 26th street; Dr. Adams's church, on Madison square; two or three stately churches on Fifth avenue, and a few others elsewhere (for the church buildings gave more evidence of architecture than any others) the costly and characteristic Synagogue, with its graceful oriental architecture and its wealth of carved ornament, and the then unfinished, Marble Cathedral, both on Fifth avenue; the Masonic Temple, and Booth's Theatre,* on opposite corners of 23d street and Sixth avenue, very recently built; would nearly, if not quite, complete the list of the public buildings up town, built within the previous fifty years, which could fairly be included in any summary of public buildings making any claim to architecture, in the city of New York down to a period as recent as the year 1875. I am not certain of its date, but the new Jefferson Market court-house building should be included in any list of architectural buildings of its time. Of course it is apparent, that no discrimination as to their relative architectural excellence is here attempted.

That there is, in fact, an unusual activity in building and a marked development of the art of architecture, now in progress in these United States, must be apparent to the most careless observer in any of the thriving cities of the Atlantic coast; nor are the emulous cities of the prosperous West likely to be laggards in any such competition.

The great fires that, a few years since, devastated Chicago, and destroyed so large a part of the business centre of Boston, necessitated wholesale rebuilding in both these cities, which gave unusual opportunities to builders and architects, and it is not impossible that much of the recent activity and general awakening to a perception of the possibilities of city architecture, in other cities, may have arisen from the stimulus thus given, and through emulation of the fine buildings then erected.

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*The destruction of the fine front of this building and its transformation into a commonplace shop for the retailing of dry goods, can hardly be considered as affording encouragement to the Art of Architecture, for it seems of little avail to construct such costly and artistic buildings of stone if they are to disappear like the tents of the Nomads.

EDUCATION IN ART ESSENTIAL IN AMERICA.

Sudden Development of Architecture and Decorative Arts, to be anticipated — Shall American youth be so trained as to supply this demand for architects and art workers, or shall these arts be left to foreigners? — It is elementary training in Art, not merely in mechanics, which is required — Walter Smith's system adapted to these demands — Elementary art knowledge, as much needed by art purchasers, as by art workers; hence all classes need this training —The public schools the place to give it — Possession of wealth, in the United States, by no means implies art culture — Historical causes of general lack of art culture in the United States — Sporadic appearance here of artists in early days, proof of existence in man of inherent instinct for art expression — Art knowledge common in Europe — Reasons for this.

In contrast with the architectural appearance of New York prior to 1875, as just instanced, let any one now, in this year of 1883, traverse the avenues and streets of the metropolis, from the Battery to Harlem River, with a purpose of observing the architectural features and building activity throughout the city.

Let him start from the Battery and observe first, the massive walls and vast inclosure of the new Produce Exchange, with their realistic sculptures and frieze in terra cotta; then mark the towering height of the new Welles Building,* near by, commanding from its roofs unrivalled views seaward and shoreward; then, in his uptown progress, observe the many new buildings that in these down-town business quarters of the city, in the vicinity of Wall and Broad streets, and Broadway below the City Hall, rise tier upon tier, till their soaring roofs seem emulous of the spire of Trinity; let him mark their stately façades and profusion of exterior ornament; then, turning from the regions of commerce and banking, let him pass through the up-town streets of private residences, and note the many new houses, and those now being built, which show distinctive architectural features. Let him note those which embody the thought of an artist, and even if not ostentatious or palatial in intent, still, somewhere, blossom into modest but fit ornament, and glow with some precious gleam of color; or are enriched with a well wrought bit of carven stone, or show trace of a sculptor's quaint fancy on some stray piece of terra cotta, and are not, as formerly such city buildings were almost sure to be, mere mindless walls run up by a contract builder.

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*This fire-proof building, is in the form of a gigantic L with its two façades on Broadway and Beaver streets; and is said to have cost $2,500,000 (the new Produce Exchange Building is to cost $3,000.000), and is the latest, as it is one of the finest examples of the type of business buildings recently erected; of which the Western Union Building on Broadway was perhaps the first, and the Mills Building on Wall and Broad streets, one of the most recent instances; while the cheerful looking "Post Building" at the intersection of William and Beaver streets with Exchange Place, with its recessed court, and its walls of yellow brick and yellow terra cotta ornament, is perhaps architecturally, the most interesting, as it is one of the most pleasing, of these modern, many-storeyed, commercial buildings.

Looking on these evidences of art work, which give good promise of a future when the streets of our chief city shall show, instead of the weary, monotonous, profitless stretches of uninteresting house fronts of the past, single houses and street façades as interesting and worthy of study as were any in the art cities of old, one cannot fail to realize the advent of a new era of architecture.

The enormous apartment houses, which rise, story on story, to an altitude heretofore only reached in historic Edinburgh, and threaten to shut out from the streets the light of heaven, impress the beholder with a sense of enormous bulk and of enormous expenditure; these are indeed the palace homes of whole communities, and, with the new similar towering business buildings far down town, they form the most striking architectural features of the new city—the city in the clouds, superimposed upon the New York of the past; but passing these for the time, let our observer mark how wealth and art have combined in the construction of such private dwellings as the three Vanderbilt houses on Fifth avenue; let him enter the luxurious halls and rooms of the new building of The Union League Club, also on Fifth avenue, and mark the wealth of stained glass, and the profusion of interior decoration there lavished; designed and executed it is of interest to know, by Americans. Allusion has already been made to the increased number of private residences that show the master hand of some artist-architect in planning.* After this survey of New York, let our observer visit Boston, and, standing in the morning shadow of the Cathedral-like pile called Trinity Church, look around him upon the beautiful, stately and artistic public buildings within view, then, passing through the broad avenues of the new quarter of the city, let him admire the many and varied house fronts that give an interest to these new streets, which was almost wholly lacking in the formal rows of substantial red brick houses that once made up the domestic architecture of the city. The new additions of land in the Back Bay district have afforded opportunities of which neither the citizens or the architects have been slow to avail themselves, and that part of the city is rapidly being covered with new, costly and often beautiful buildings. Among the more recent of these, the residence of the Rev. Phillips Brooks, the rector of Trinity, and the new building of the Boston Art Club, are noticeable for striking and pleasing architectural features. The immense new building of the Young Men's Christian Association may be pointed out in the future in evidence of what let us hope is but a passing whim in architecture, while the plain new building of the Massachusetts Institute of Technology, just completed, evinces the excellences of construction peculiar to the engineer while showing an almost rude indifference to any of the graces of architecture. While the loss of such an opportunity as was afforded by its site to enhance the noble architectural features of its surroundings must be regretted, at least the substantial, unpretentious character of the building may be commended. It is a fitting monument of the combination of utility and ugliness. One may perhaps be permitted to hope that the school of architecture which is a department of the Institute may, in some new building, give an equally admirable example of the possibility of wedding utility to beauty.

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* Since the above was written, a discriminating article upon "Recent Building in New York" by Montgomery Schuyler, has appeared in the September, 1883, number of Harper's Magazine. This article of some twenty pages, illustrated as it is with numerous examples, enables the reader, who may be interested in the present architectural development of our cities, to go through the streets of New York on some-

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what such a tour of observation as I have suggested, with an interesting companion intelligent concerning architecture, who will point out with careful discrimination the notable features for blame or approval, and who will have much to say that merits serious consideration. Extracts are given in an addenda to this paper.

Mr. Schuyler's article in the September Harper was followed by a delightfully reminiscent paper on "Old New York and its Houses," written by the late Mr. Richard Grant White, and charmingly illustrated by Mrs. Mary Hallock Foot and other artists, which appeared in the October 1883, number of the Century Magazine. The article, in which are shown many bits of exterior and interior decoration, attempts to do for the colonial city, that which Mr. Schuyler has essayed for the city of to-day. Those interested in architecture or in the development of our American cities, will find much of value in these two articles.

The occurrence of the great fire in the business quarter of the city and the acquisition of new land made by the filling up of the Back Bay, have furnished to Boston, during the past decade, unprecedented opportunities architecturally. It was not, however, the appearance of the modern private residences or public buildings in the new quarter of the town, or of the new business houses in the burnt distict, that, during a visit by the writer in the autumn of 1883, was most impressive architecturally, or most suggestive of the prevalence of this building movement here referred to; on the contrary it was in the old part of the city, among the buildings devoted to merchandise, that the writer happened upon two examples of the art of architecture as satisfactory in their own way as any of the surprises that delight the wanderer in old world towns. Here, to-day, in the United States are two buildings which, while admirably adapted for their uses, are an earnest that the dreams of enthusiasts as to the future possible beauty of American towns need no longer be scouted as visionary.

Passing down Bedford from Washington street the attention is arrested by the massive proportions of a doorway on the corner of Harrison Avenue. This proves to be the rear entrance to White's large dry goods store which fronts on Washington street. It is a striking example of an effective and satisfactory solution of the difficult problem of affording, at the same time, secure support to the superincumbent stories of the lofty building and an unimpeded entrance way. The result shows how skill wrests triumphs from difficulties; the harder the task, the more brilliant the success. In this instance, out of a corner doorway, usually most awkward and contracted, the architect has designed one of the most commodious of entrances; while he has also made it so noble and beautiful that one involuntarily regrets that it is hidden away in comparatively obscure streets.

Two mighty circular piers of red sandstone support the strong architraves, great single stones—rivalling in length some of those that make famous the walls of the Pitti Palace—which also rest upon similar piers buttressing the walls of the building, at either side of the entrance. A glance is sufficient to satisfy the beholder that the towering walls above, rest upon sure foundations. With the sense of security thus afforded, an essential pre-requisite, one can leisurely observe and delight in such ornament as the artist has expended upon his work. This has mostly been concentrated upon this noble entrance way, the most important architectural feature of this building. The upper third of the columned piers is elaborately carved, so that they give the impression of columns crowned with rich and beautiful capitals, the freedom and grace of the curving leaves producing a charming effect. It would be difficult, I fancy, to find in church or public building in the city of Boston, a grander, more beautiful entrance, or one more truly original, than the artist has here given to this house of merchandise. In this instance architecture is neither the servant of State nor Church, yet is it none the less noble and grand. It is wholly fitting that in a Republic and in a city of merchants, a man should thus honor his calling. Yet Architecture has so long been wont to busy herself with cathedral and palace and stately municipal building, that the first sight of these columned stones excites a feeling of surprise. The topmost story of the tall building, built of brick and sandstone, is lightened and adorned with a row of flattened sandstone pillars between the windows, giving something of the effect of an aerial colonnade; while here and there, a single quaintly carved monster, set in the wall at long intervals, writhes in solitary seclusion.

Notable as is this doorway, it is but the precursor of the noble building, that towers a short distance beyond, in the same street.

This is a large and lofty building of red sandstone with a sweeping curving front at the intersection of Bedford and Kingston streets, where is a sort of triangular place; so that the centre of the building with its main entrance looks up Kingston and down Bedford streets, and can be seen from a long distance. This building erected in 1882–'83 for the owner of the ground Frederick L. Ames, for business uses, is indeed a most notable example of the art of architecture.

On the ground story the massive piers that support the bold round arches of the windows, with their great span admitting the floods of light demanded by modern needs, show how possible it is to harmonize use with vigorous construction and noble architecture. The strong walls rise, story upon story, with the solidity and strength of a fortress; the roof is broken with bold gables showing their lines of construction. All this is engineer's work and admirable work it is, remarkable if it had stopped with this; but now, satisfied with the strength and commodiousness of his building, comes the artist whose sportive fancy plays upon the structure, softening the sullen stones till they smile beneath its touch, as if the sunlight were playing hide and seek with the tremulous shadows of vine leaves, clustering about the crannies and crevices of some solitary, storm worn cliff. The rocks actually seem plastic to the chisel and to have molded themselves into whatever forms the teeming fancies of the capricious artist may have willed.

It is the only building I have seen in the United States that gave a sense of the joy of creative art. Here is the very spirit of the rollicking stone cutters of the middle ages, whose quaint fancies and unbridled conceits peer out from the most unlooked-for places and lend a human, every day interest even to their solemn cathedral piles. Here in this prosaic house of business, this building so characteristic of its use that it could by no possibility be mistaken for aught else, unless, indeed, it suggests the fortress home of some merchant of Florence in her days of civic strife, which suggestion is at once dispelled by a glance at the large windows, unguarded by the heavy bars of iron wrought into quaint patterns which give so prison like an aspect to the Palaces of Florence, and at the ever open doors, which here invite not repel all comers.

There is here no sense of imitation, this builder made his building to suit its uses, and adorned it to please his fancy; his work suggests himself and no other, and is, what true art must ever be, satisfying. When looking on this building the question of style of architecture does not intrude itself, one feels how appropriate, how majestic, how strong, how harmonious, how beautiful it is; and then, satisfied, yields to the delight of observing and enjoying the details in which are manifest the quaint fancies and exquisite sense of ornament possessed by the artist. The arched windows, repeated in each story and increasing in number in geometrical ratio as the walls increase in height, are crowned with an aerial colonnade above which rises the high steep pitched roof broken by lofty gables.

So exquisite is the harmony of proportion, with the rhythmic multiplication of windows and upspringing lightness of the crowning colonnade, that the sight of the building is to the eye, what harmony of music is to the ear.

I had hoped this building meant that the country was richer by another great architect so that it was not without a slight sense of disappointment, though with no surprise, that I at last ascertained with considerable pains, that the architect of Trinity Church was also the designer of this building which had so charmed me; certainly these two buildings preëminently justify the right of Mr. Richardson to be called an architect. Those who insist that the architect himself shall be thoroughly drilled in a knowledge of the theoretical science and practical work of the engineer, and made equally familiar with the mathematics and processes of the builder, are doubtless wholly right, for such knowledge is essential; since, without it, the architect would be liable to grave errors in his own designs, as well as incompetent to decide upon the work of his builder. It by no means follows, however, that the architect must personally busy himself with these details; it is enough for him to be able to judge the plans and the work of those to whom they are committed.

In the instance of the architect whose work we are now considering, it is his custom, as I am credibly assured, to busy himself only with his art, entrusting the execution of his designs to competent builders; his buildings are so satisfying because designed by an artist. There is a world of suggestion in this fact.

After thus surveying New York and Boston let our observer, coming southward, mark the massive piers and columns with their crouching giants, upbearing the slowly rising walls of the vast municipal palace of the City of Penn,—enclosing in its compass four city squares,—with its white marbles glistening in the sun and populous with statues and bas-reliefs, a very re-creation in splendor of material and ostentation of expenditure, of the municipal and princely palaces of the Italian Renaissance; then, let him observe the noble public buildings near; by no means omitting to notice the new Rail Road station opposite, with its pleasing façade of brick and terra cotta, its commodious waiting rooms and costly approaches over the broad viaduct, the whole embodying notable examples of engineering, architecture and enterprise. If he would further realize the rapid progress of this architectural movement, let him visit Washington, and see how extensive is the new northwest quarter of that city, where, but five years ago, were empty fields and an almost uninhabited solitude which is rapidly being transformed into a thick settled neighborhood of costly, in some few instances of beautiful residences. As one looks on these new buildings, many of them imposing by bulk at least, and contrasts them with the earlier buil thouses that line the streets and avenues of the capital city, and remembers that throughout the north and west, all over the broad land, similar activity in building is now going on in all the thriving cities and towns of the United States, the conclusion is inevitable that a great building movement has set in in this country; that in fact, as I have before said, the palace building era in these United States of America, has begun.

Reflecting on this wide extended activity in building and the immense additional expenditures implied, for these palaces are to be adorned, furnished, equipped; some partial realization of the unlimited wealth of this American people may be attained.

Unless architects are thoroughly trained and are loyal to their art, and unless their clients understand and are willing to meet the cost of good art and honest work, there will be little permanent outcome to be proud of from all this bustle of building.

In the instance of Washington a striking individual quality attaches to the domestic architecture by reason of the many irregularly shaped lots consequent upon the peculiar plan of the city. In this plan, the streets are laid out at right angles, while the avenues, which from several centers radiate like the spokes of a wheel, cut the rectangular squares diagonally and thus compel a certain originality of treatment by the architects in the endeavor to adapt their buildings to these lots of differing shapes and dimensions. This very necessity has resulted in giving to the city as a whole an interest and a charm arising from the absence of uniformity and the apparent freedom of choice shown in the designs of the builders. The sudden activity in building up the new quarter of the town, coming as it did during the height of the Queen Anne craze, led, at first, to much picturesqueness and to some absurdities, in that the different requisites demanded by the needs of a northern climate like England, and those suitable to Washington with a climate like that of Rome, were ignored. These mistakes, however, have fortunately not become general, while the variety and quaintness of the many new houses lend an added charm to the unique plan and attractive situation of the capital city.

In building and in landscape gardening the dictates of common sense seem sometimes to have been wilfully disregarded, as in certain striking instances which unfortunately exist in Washington. The laws of fitness and harmony, of adaptation to use, cannot long be violated with impunity, even though committed at the dictates of imperious fashion. It is because of this violation in some instances that one may well question whether some of the spick and span new picturesque dwellings of so called "Queen Anne" and other styles, or rather confusions of styles, recently built in the new fashionable quarter, will receive as much praise from those who see them fifty years hence as they get now, and what is true in Washington is as true elsewhere.

Strong walls and honest work lacking all pretence to art are more worthy of lasting respect than any profusion of picturesqueness, or redundance of architectural ornament, obtained by the trick of substituting pretentious sham battlements, sham cornices, and sham gables — the false fronts of the builder — for real constructions; or, by the use of massive corbels and balconies of carved granite, wrought by trick of builder's alchemy from sheets of zinc or corrugated iron. Nor will the cheapness and ease with which zinc pinnacles, glistening with gilt and writhing in meaningless convolutions, can be clapped on to preposterously high houses, be held as any sufficient apology for thus outraging every canon of good taste.

Truth is as essential to architecture as to character, and ornament should be applied to buildings with as much reserve and with the same regard to fitness and harmony, as when applied to persons. The term "applied ornament" is, in itself, almost a paradox; for, when "applied", it is rarely ornamental. Unless it is a natural logical sequence emphasizing the true character and purpose of the building, it is simply an excrescence, and, as such, necessarily disfiguring.

This wonderful activity in building throughout the United States offers present and prospective opportunities to architects and invites the creation of a noble and appropriate city architecture.

To the country expending, and about to expend, such vast sums in construction, the question of securing architects capable of erecting enduring as well as pleasing buildings is one of vast economic importance. Where the decision between competing plans of architects in case of public buildings may, and the choice of styles in private buildings must, be decided by private individuals not specially trained, indeed, usually wholly untrained in such matters, the desirableness of having some general knowledge of the elementary principles of art diffused throughout the community, seems evident. That architects should thoroughly understand their business will be admitted. That the public should know enough to know whether the architects do or do not, understand their business, would seem equally a self-evident proposition.

That the great body of architects do not yet know how successfully to solve the new problems and that the public is wofully deficient in architectural knowledge and taste, will appear under any critical survey of the erections in our cities since 1875, and yet they are full of promise, for there is evident a great effort for good architecture and, spite of many mistakes and failures, such effort will ultimately achieve success. When the first elements of art, in the way of instruction in drawing, are taught in all the public schools then there will be such a general knowledge of the simple fundamental truths that it may be reasonably anticipated that some long familiar atrocities can never be repeated. A public thus trained will demand, and get, and support, trained architects.

It is due to the architectural profession to state, that with the exception of the founders of the few art academies, no body of men have shown more earnestness or intelligence in their endeavors to secure the opportunities for thorough preparation to those seeking to enter the profession, than they have done for years; as witness the work of their standing committees on education, and the papers on the topic read before their conventions and officially published by them. Accounts of and extracts from these admirable papers will be found among the Appendices. It is largely due to these efforts that the present building movement finds ready in the cities and larger towns, so many capable, enthusiastic young architects; while it is more than probable that much of this public desire for some artistic features and beauty in buildings, is directly due to the suggestions of and to the example of buildings by these young enthusiasts.

In these myriads of attractive new buildings, which are a direct addition to the wealth of the several communities may be seen a practical demonstration of how art knowledge may directly add to the pecuniary interests of a people. The architects having been the first to institute definite steps for the technical instruction of architects are consequently early in securing results.

If the American mind is capable of artistic development, the incitements held out by the building of these costly houses,—literally palaces,—and by the demand for all the products of artistic industries which will be required for their suitable equipment; must surely afford sufficient stimulus to produce architects, artists and artisans. The prizes offered by academies and governments are paltry, compared with those everywhere awaiting the ambitious and capable art student in America.

No labor is ever so splendidly remunerated as art work, when once accepted as great art. No labor so well paid, when palaces are building, as decorative art work. Where wealth combines with desire for display, as is preëminently the case now in the United States, there is ample employment awaiting trained artisans of every grade of capacity. No one who possesses effective skill in any artistic industry need fear lack of remunerative employment in these United States, now that the palace building era has really set in.

Everything conspires to urge on the general introduction of elementary art training in the schools of the people, so that the pupils may be best fitted for that subsequent technical art training which shall enable them to enter at once upon this inviting field of labor. Thus, at the very moment when the old employments, — for which the former school training was a good preparation,—no longer provide adequate work and pay, these new industries wait for efficient and skilful workers.

With this conjunction of very general facilities for elementary art training, and this new and growing demand for the products of every form of art industry, and with these opportunities for the exercise of every grade of art capacity, a remarkable development of American artists and art workers may be anticipated during the decade upon which we are now entering.

The labor now most desired is that which is able to construct homes of beauty and to make the articles which will fitly adorn such palaces and their inmates. Silversmiths, goldsmiths, makers of beautiful potteries and porcelains, designers and weavers of costly and artistic stuffs for hangings and upholstery, all these, and like skilful workers in their allied industries, will be sure of finding ample employment. By and by, trained by these art industries as were the apprentices in the silversmiths' shops of Florence, will appear great masters of art.

That the Nineteenth Century should see, in this American land, a similar art development to that which then arose in Florence, will not seem so strange a phenomenon to the future student of history, as the statement of its possibility will probably seem to the reader.

To that student in the remote future, our age, foreshortened to his view, will be seen to be but a portion of that very era of "the revival of learning," which began when men first rediscovered Greece and Rome, and which is still in progress; as is shown by our explorations among the buried tombs, temples, and cities of Greece, in the hope, even yet, of recovering a few more of the precious fragments of their arts, which may add to our knowledge of that wonderful civilization of a remote past.

It is, perhaps, not easy to realize that this Nineteenth Century, with its boasted discoveries, its wonderful inventions and machines, its feverish activities, and its conceit of progress, is one with that far away time when the finding a few long forgotten words, woke man's intellect to a new life; while the discovery of some mutilated statues and fragments of overthrown buildings proved the inspiration and the despair of modern art; nor, are we of this bustling century quite ready to admit, that the modern race of men still toil vainly behind that Athenian race, whose superiority in the Arts,—one is sometimes tempted to believe in all things—is still so preëminent.

Nevertheless this very century is the child and heir of that age of the new dawn, which, adding to the humanizing influence of the Christian teaching, the culture and wisdom of the Philosophies, Arts, and Laws of the Wise Ancients, heralded and inspires all our Modern Civilization.

We of to-day, are living in "the Renaissance." The progress has been continuous though now seemingly delayed here and now there, it was but to bring up some stragglers in line with the onward march. Now giving attention to the principles of government, now to those of religion; now investigating natural phenomena, now pursuing art; now contending for individual liberty, now laying broad the foundations of ordered society; Humanity, all the while, moves onward toward the excellence attained by the old Athenians;—towards, we confidently believe, a higher excellence; a grander, humaner development.

French Revolutions, Napoleonic wars, Crimean battles, in Europe, African slavery and secession wars, in America, seem to retard; but, as time passes, are seen to have effected some needed change, to have removed some hindering influence, to have advanced, not endangered, the true progress of the Race!

The Seer, Emmanuel Swedenborg, declared, a century or more ago, that our sun was situated in that part of the heavens known as "The Milky Way," and indicated the exact place; within a few years, "star-eyed Science," toiling far behind the Seer, has gravely confirmed the statement.

To the unastronomical mind it seems as hard to realize that our place in the universe can be so localized in that wonderful Galaxy which illumines our nightly sky, as it does to think that our place in history will come, in time, to seem one in development and almost one in actual contact, with the days of the Medici, of Petrarch, of Raphael, of Galileo, and of Da Vinci. Yet it is, even now, by no means difficult to trace back the spring and origin, "fons et origo,"—of our present development to those days and men!

Recalling the history of that "new birth of learning" in Italy, reflecting upon the wealth piled up by those mediæval commercial Republics, and the manner in which the demands caused by the consequent luxury, were responded to by the marvellous development of all the artistic industries, and by the production of the nobler works of art; the idea that a similar art development may be anticipated in this modern commercial Republic of ours, no longer seems absurd.

When, besides, one recounts the names of justly famous artists that have appeared in Europe during the last forty years; and further considers the marvellous improvement in quality and increase in variety and amount of productions of all the artistic industries both in England and on the Continent since the year 1850; nothing, in the prospective art development of America, seems impossible.

If effects still lurk in causes, a great artistic development may be confidently predicted in America, and there are many indications, which might here be cited, of its near approach; but, at present, we must return to a further consideration of the problem of elementary art training, and to the possibilities for such training afforded by our system of public schools.

ADDENDA.

ON FASHIONS IN ARCHITECTURE.

Quotations in regard to modern "Queen Anne" and other vagaries of American architects from an article in the September 1883, number of Harper's Magazine, on "Recent Buildings in New York," written by Montgomery Schuyler—"The best ten buildings in the United States."

The Queen Anne craze has become so dangerously epidemic, that I am glad to be able to quote here some of the pertinent remarks made by Mr. Schuyler concerning this latest phase of mindless and indiscriminate imitation. The closing words of the article are given as applicable to all art questions that may arise; since they embody philosophic and scientific truths which should underlie all artistic effort and without which, as a foundation, no true art can be developed here or anywhere.

"'Queen Anne' is a comprehensive name which has been made to cover a multitude of incongruities, including, indeed, the bulk of recent work which otherwise defies classification, and there is a convenient vagueness about the term which fits it for that use. * * * Whoever recalls Viollet-le Duc's pregnant saying, that 'only primitive sources supply the energy for a long career,' would scarcely select the reign of Queen Anne out of all English history for a point of departure in the history of any one of the plastic arts."

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"The revivalists of Queen Anne have not confined their attentions to the reign of that sovereign. They have searched the Jacobean and the Georgian periods as well, and have sucked the dregs of the whole English Renaissance. Unhappily, nowhere in Europe was the Renaissance so unproductive as in the British Islands. It was so unproductive, indeed, that Continental historians of architecture have scarcely taken the trouble to look it up or to refer to it at all. Not merely since the beginning of the Gothic revival, but since the beginning of the Greek revival that was stimulated by the publication of Stuart's work on Athens, in which for the first time uncorrupted Greek types could be studied, what contemporary architects have ransacked as a treasury was considered a mere lumber room, and fell not so much into disesteem as into oblivion. During two generations nobody any more thought of studying the works of English architecture, from Hawksmoor to 'Capability' Brown, than anybody thought of studying the poetry of Blackmoor and Hayley. The attempt within the past ten years to raise to the rank of inspirations the relics of this decadence, which for years has been regarded by everybody as rather ugly and ridiculous, is one of the strangest episodes in the strange history of modern architecture."

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"This justifiable preference for Bowling Green and Washington Square and St. John's Park over Broadway and Madison Square and Murray Hill, for an architecture confessedly colonial over an architecture aggressively provincial, is no doubt the explanation why so many of our younger architects made haste to fall in behind the Queen Anne standard. What we really have a right to blame them for is for not so far analyzing their own emotions as to discover that the qualities they admired in the older work, or admired by comparison with the newer, were not dependent upon the actual details in which they found them. To be 'content to dwell in decencies forever' was not considered the mark of a lofty character even by a poet of the time of Queen Anne. If virtue were indeed, 'too painful an endeavor,' and if there were no choice except between the state of dwelling in decencies and the state of dwelling in indecencies forever, we could but admit that they had chosen the better part. But they were not, in fact. confined to a choice between these alternatives. The Gothic revival in England, after twenty years, had succeeded in establishing something much more like a real vernacular architecture than had been known in England before since the building of the cathedrals—an architecture which, although starting from formulas and traditions, had attained to principles, and was true, earnest, and alive."

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"Another generation of artists as earnest as those who began the Gothic revival might have brought this rough and swelling bud to a splendid blossom. But in an evil hour, and under a strange spell, the young architects of the United States followed the young architects of England in preferring the refinements of a fixed and developed architecture to the rudenesses of a living and growing architecture."

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"They have had their way in New York for seven or eight years, during a period unprecedented in building activity, and out of all comparison in the profusion with which money has been lavished upon building and decoration. What have they gained for architectural art?"

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"They have built so much and so expensively that they have produced in minds—like some of their own—which do not reflect much upon these things, the impression that if luxury and art are not synonymous, they are at least inseparably connected, with the latter in the capacity of hand-maiden. But will any educated architect assert that the characteristic monuments of the last five or six years, greatly superior in quantity, and superior by a great multiple in cost, are equal in architectural value to the work of the decade preceding?

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"So the new departure is still but a departure, and it seems time that such of the victims of it as are artists who take serious views of their art should ask themselves why they continue to work in a style which has never produced a monument, and in which it is impossible to discern any element of progress. In doing Queen Anne, have they done anything but follow a fashion set, as fashions in millinery and tailoring are set, by mere caprice?

"The professional journal which is the organ of the architects in this country has indeed declared that 'architecture is very much a matter of fashion,' and architects who take this view of their calling will of course build in the fashion, as they dress in the fashion, in spite of their own knowledge that the fashion is absurd. But it is impossible to regard an architect who takes this view as other than a tradesman, or to discuss his works except by telling what are the latest modes, in the manner of the fashion magazines. It seems impossible for architects who take this view of their art to take their art seriously, anything like so seriously, for example, as they take their incomes. But for architects who love their art and believe in it, the point of 'departure' is much less important than the point of arrival, and by such architects the historical styles of architecture will be rated according to the help they give in solving the architectural problems of our time.

"We have seen that an architect who starts from Renaissance architecture and an architect who starts from Gothic architecture, if they faithfully scrutinize their precedents, and faithfully discard such as are inapplicable, in arriving at free architecture will arrive, so far as style is concerned, at much the same result. If this process of analysis were to be carried on for a generation, it would be as difficult, and as purely a matter of speculative curiosity, to trace the sources of English and American architecture as the sources of the composite and living English language, which is adequate to every expression.

"We have been blaming the architects for accepting the forms of past architecture without analyzing them. But, indeed, if architects had been analysts, they would generations ago have recognized in their work that we do live in times unknown to the ancients whether of Athens in the fifth century, before our era, or of Western Europe in the thirteenth century of our era; that within the limits set by fact and reason there is ample room for the exercise of all accomplished talents, and verge enough for the expression of all sane temperaments, while without these limits nothing can be done that will stand the test of fact and reason, which is the test of time; that 'effects' cannot precede causes, and that the rudest art which is sincere is living and in the way to be refined, while the most refined art that has lost its meaning can never be made alive. The recognition of these things would have prevented a vagary like the frivolities and affectations of the new departure from attaining any vogue, but it would also have prevented the establishment of any technical styles in modern building and instead of reproducing 'examples' of one historical style and then of another, and then of a mixture of two, architects would be producing and writers would be discussing works of the great art of architecture."

THE BEST TEN BUILDINGS IN THE UNITED STATES.

In this connection the results obtained by the editor of the "American Architect and Building News," in an attempt to learn which buildings were, in the opinion of the profession, to be considered as the best examples of the art of architecture in the United States, are of interest, and may be useful for reference in the future when it becomes desirable to measure the progress of the art.

Circulars were sent to the architects asking them to name in numerical order of excellence, in confidence so far as the publication of their own names were concerned, ten buildings entitled to rank as the best ten.

The result was not, as a whole, as conclusive as had been anticipated, since local pride, as well as want of opportunity to see all the buildings, doubtless led to a wider range of selection than would otherwise have occurred.

In the case of the building ranked first the result is to emphasize this exception which, by a general consensus of the profession, heads the list.

The results were published in the issue of July 13, 1885, from which the following extracts are taken:

"Total number of voters, 75. Total number of buildings mentioned, 175. Total number of buildings receiving more than 1 vote, 56."

"The order in which they stand is:

I. Trinity Church, Boston. Messrs. Gambrel & Richardson, architects. 63 votes, or 84 per cent. of the votes cast.

II. United States Capitol, Washington, D. C. Messrs. Hallet, Hadfield, Hoban, Latrobe, Bulfinch, Walter, and Clark, architects. 41 votes, or 55 per cent. of the votes cast.

III. House of W. K. Vanderbilt, New York. Mr. R. M. Hunt, architect. 37 votes, or 49 per cent. of the votes cast.

IV. Trinity Church, New York. Mr. Richard Upjohn, architect. 34 votes, or 45 per cent. of the votes cast.

V. Jefferson Market Court-House, New York. Mr. F. C. Withers, architect. 23 votes, or 30 per cent. of the votes cast.

VI. State Capitol, Hartford, Conn. Mr. R. M. Upjohn, architect. 23 votes, or 30 per cent. of the votes cast.

VII. City Hall, Albany, N. Y. Mr. H. H. Richardson, architect. 19 votes, or 25 per cent. of the votes cast.

VIII. Sever Hall, Cambridge, Mass. Mr. H. H. Richardson, architect. 17 votes, or 22 per cent. of the votes cast.

IX. State Capitol, Albany, N. Y. Messrs. [Fuller] Eidlitz and Richardson, architects. 16 votes, or 21 per cent. of the votes cast.

X. Town Hall, North Easton, Mass. Mr. H. H. Richardson, architect. 15 votes, or 20 per cent. of the votes cast.

The votes for the next ten were relatively so large that they are also given:

XI. New City Hall, Philadelphia, Pa. Mr. J. McArthur, jr., architect. 14.

XII. Casino Theater, New York. Messrs. Kimball & Wisedell, architects. 14.

XIII. Lenox Library, New York. Mr. R. M. Hunt, architect. 13.

XIV. Produce Exchange, New York. Mr. G. B. Post, architect. 12.

XV. Columbia College, New York. Mr. C. C. Haight, architect. 12.

XVI. Broad Street R. R. Station, Philadelphia, Pa. Messrs. Wilson Bros. & Co., architects. 11.

XVII. Crane Memorial Library, Quincy, Mass. Mr. H. H. Richardson, architect. 11.

XVIII. Court-House, Providence, R. I. Messrs. Stone & Carpenter, architects. 10.

XIX. Central R. R. Station, Providence, R. I. Mr. T. A. Tefft, architect. 10.

XX. Harvard Memorial Hall, Cambridge, Mass. Messrs. Ware & Van Brunt, architects. 8."

The votes of the local architects for local buildings are also given for the cities of Boston, Chicago, New York, and Philadelphia.

Nine Boston architects cast 22 votes, out of a possible 90, for 12 Boston buildings. The first four of these were Trinity Church, by Gambrel & Richardson. The Ames Building, Bedford street, Richardson. Art Club Building, Emerson, and R. H. White & Co.'s new store, Peabody & Stearns.

The four Chicago architects cast 8 votes, of a possible 40, naming 6 buildings. The Pullman Building, S. S. Beman, and Philadelphia R. R. Station, L. Eidlitz, head the list with 2 votes each.

Twelve New York architects cast 70 votes, out of a possible 120, for New York buildings. These are given to 24 buildings: 8 received 1 vote; 9, 2 votes. The highest number of votes given is 9. To house of William K. Vanderbilt, R. M. Hunt; Columbia College, C. C. Haight; Jefferson Market Court-House, F. C. Withers; Trinity Church, Richard Upjohn; Casino Theater, Kimball & Wisedell; houses of Louis C. Tiffany and Henry Villard, McKim, Mead & White; Lenox Library, R. M. Hunt; New York Mutual Life Insurance Company's Building, C. W.

Clinton; Produce Exchange, G. B. Post. These ten buildings rank in order of votes, each receiving from 9 down to 2 votes, which are given to the last three.

Six Philadelphia architects cast 21 votes, of a possible 60, for 11 Philadelphia buildings. The Masonic Temple, J. H. Windrim, and the Pennsylvania R. R. Broad Street Station, Wilson Bros. & Co , each receiving 4 votes. The New City Hall, J. McArthur, jr., and Girard College, T. U. Walter, each receiving 3 votes. The Insurance Company of North America's Building, Cabot & Chandler, has 2 votes, the others only 1 each.

As the preceding paper was written long before the issue of the above lists, the writer has been gratified to note the confirmation by professed architects of his judgments as therein expressed, and also pleased to learn that Mr. Tefft was the recognized architect of the Providence R. R. Depot, which is ranked 19th in the list.

ART AND POLITICAL ECONOMY.

Training in art in American schools desirable in order to place the future citizens in harmony with their surroundings—Resources now existing in the community for general art culture—Labor the great source of wealth—The community equally interested in exchange of its "labor" for works of art, whether exchange is made by private citizens or public officials—The relation of the community to its expenditures for education, whether public or private—This Report is in the nature of an appraisal of the public, and a portion of the private, resources on hand; educationally available for the training of skilled artists, and artisans, who shall develop the artistic manufactures and industries of the people—Tendency of books, paintings, sculptures, and art objects to gravitate from private to public ownership;—to concentrate in Public Libraries and Art Museums.

Already in the previous pages, many phases of the discussion as to the new educational demands in the public schools and other educational agencies, have been illustrated and many reasons why such changes were required have been given, accompanied by references to the successful results of similar experiments, in justification of the advocacy in these papers of the general adoption by the schools of America of the proposed innovations.

The additional argument arising from a realization of the importance that the development of a people should be in harmony with their surroundings, and that to effect this should be a controlling purpose in any scheme of public education has been reserved till now.

A public school course of training which should accomplish this for all, which should so inform every pupil in regard to the elementary principles common to all the forms of art as to give them, in some degree, an intelligent appreciation of the qualities that give value to the products of artistic industries; and which, at the same time, should best fit those who look forward to lives of industrious labor for subsequent training in such artistic industries as will be the most desirable for the community and most renumerative to the individual, would certainly seem to invite the appellation "Utopian," had it not been already successfully established.

In a Republic, in which there are no fixed classes, it is the more desirable that the elementary education given to all should be so simple, broad and thorough as to suffice for a sure foundation on which to build. Upon this basis of knowledge, common to all, each individual may develop in such direction and to such completeness, as ability, inclination and controlling circumstances permit.

Without the power of appeal to a common standard of morals, of justice and of manners, which implies considerable knowledge of these subjects by all the people, no organized community, other than one under the rule of a despot, would be possible. Knowledge by the people of those things which affect their common interest, is an indespensable pre-requesite to any organized form of civilization compatible with liberty and progress. Since such a common basis of elementary knowledge is so essential to the development of self governing civilized communities; it is only a logical deduction, a necessary corollary, that if it is desirable that a community should develop in any given direction, there must first be a general dissemination among the people of the elementary knowledge essential to such development.

In the first of these papers the fact that such knowledge of all matters relating to the arts was a common possession of those peoples whose Art has won the admiration of the ages was clearly shown. History and theory are in perfect accord.

If then it is desirable that the people of the United States become an art-loving and an art-producing people, it is certain that, in order to effect this, some elementary knowledge of art must be universally disseminated; and that the education of the people must be such as will both fit them to appreciate and enjoy art, and, also, to become skillful in the technical employments of the industrial arts. Such general elementary education of the people can, in the United States, only be attained by means of the free public schools. If it is urged, in objection, that the people of Greece or of the Italian Republics had in their time no similar training in schools, the answer is easy since it is evident that the people needed no such formal teaching; for, from earliest childhood, they were everywhere surrounded, in the life of the streets, the forum, the temples, the churches, by works of great artists, which the children were wont to hear discussed and criticised, as matters of personal and common interest and concern, by their elders, and so, their unconscious education in art went on continuously.

In England and in the United States it is far otherwise. Such art instruction as is received by the youth of these countries must be, for the most part, designedly imparted. In this country the public schools furnish the only adequate agencies. The Nation of to-morrow has its birth in the schools of to-day. If then, the people of the United States are ever, as a nation, to have an artistic development, the seeds of that growth must be planted in the schools of the children.

In view of the statement in the preceding paper as to the era of luxury and ostentation which is approaching, and of the industrial demands which such an era will develop, problems usually relegated to the political economists press for immediate and practical solution. It is evident from the history of. the past few years that the people of the United States are already large consumers of articles of art and luxury; it is certain, that the consumption of these articles must largely increase.

The question who shall produce these articles is of vital importance to the educator, the taxpayer, and the political economist. Shall they be made in other countries by foreign artists and artificers? Shall they be made here by trained foreigners who immigrate to thiscountry; or, shall the school children of this country, the cost of whose training is paid for by the taxpayers, be so trained at school as to fit them to make such articles of beauty and luxury as a rich people require and at whatever cost will obtain? The adoption of art industrial training in schools has been herein urged from other points of view; but, though so different, they are not antagonistic, nor do they obscure this aspect of the situation. The argument springing from the anticipated increase of this present demand for art works is complementary to the reasons before adduced,—both confirmatory and encouraging,—since it offers a partial solution to the problem, as to "how, and where, the art workers when trained, could find employment?"

The demand arising from this class of palace builders previously referred to, bears somewhat adversely upon the project of introducing mere industrial training in the schools, the "hand work," now somewhat strenuously urged. To have only the technical skill of the blacksmith, or the carpenter, will not suffice.

It is a higher skill, a more refined form of labor, that alone can meet the coming demand. The training to qualify workers to meet this, must be absolutely artistic. It must be, by a course of elementary and progressive art training, such as Walter Smith projected, carried out to its completion. The taste must be trained, the highest ideals of art comprehended, the technicalities of art working in whatever material may be chosen, fully mastered. The public schools can and should fit the pupil so that such technical skill can be, subsequently, most readily acquired.

This art training will also be found to be as desirable for the art purchasers as for the art workers. There is a very different point of view from which this subject may be profitably considered; and that is, one which concerns itself with the attitude towards the art interests of the country, of the owners of great fortunes, the probable purchasers of the handiwork of these future artist workers. In view of its bearing upon the future art development of this country, it is a matter of importance that these people should be possessed of some correct knowledge of art, if they are to expend their money for works of art. For a very practical reason, the community, as we shall presently see, is very deeply interested that such expenditures should be wisely made. It by no means follows in the United States, as yet, that the possession of wealth necessarily implies any form of culture; least of all, of art culture. Nor ought lack of the latter to be held, in any sense, as a reproach to the individual, because this country has heretofore, — the Centennial Exhibition alone excepted, — been absolutely destitute of opportunities for the acquisition, by the public generally, of art knowledge. Many of the excuses for various shortcomings, which are based upon the plea that this is a young country, are absurd; because, in a knowledge of literature, for instance, the first settlers were on an equality with the most intelligent of their English countrymen; and Americans have continued to keep themselves fully informed as to the literary progress of modern Europe, while the amazing development of the sciences is of very recent growth, and in these, America admits no inferiority to the rest of the world;— but, when the fine arts are in question, the plea is valid. For it must be remembered that this fair land was a wilderness, in which the first settlers were forced to endure privations and sufferings of every kind; for shelter and food, the bare necessities for human existence, could only be scantily provided by the hardest labor. When the added fact, is recalled that these settlers cherished the most earnest religious abhorrence of every form of art, it is easy to see that there was little opportunity for its existence.

Certainly there was nothing in the surroundings of the struggling colonists to stimulate any abnormal development of the arts of adornment, while the religious sentiments, to the inspiration of which the noblest achievements of art have been ever due, were active to repress, not to develop, all such instincts!

The sporadic appearance, a little more than a century later, among the Quakers, a people whose religious opposition to art was intense, of the child Benjamin West whose inborn instinct for painting overpowered every obstacle;—and, amid other surroundings, of Allston, who, forty years later, evinced a genius for art at once delicate and powerful, are instances that go far to prove the existence in man of a strong tendency to expression by means of the arts;—an instinct which may be long repressed by untoward circumstances, as it was through the Colonial period of our history, but which, since it is an inherent quality of human nature, must eventually manifest itself.

In fact, in the leading cities of the young Republic there were at a very early period in our history occasional individual artists, mostly portrait painters, and in four cities there were incorporated associations of artists and other people of culture, for the promotion of the fine arts; nor, for the last century, have the arts been without a certain amount of cultivation and patronage in these United States, while the rapidity and extent of the growth of an interest in art has been one of the most notable incidents of the recent progress of the country. Still, despite these facts, it remains that opportunities for any knowledge of art on the part of the people of the United States, as a whole, have been so uncommon, that such knowledge has been not only not incumbent on any particular person, but often absolutely unattainable.

In the cities of Europe, an unconsious art influence pervades the atmosphere, and, if heredity goes for anything, this same influence has been exerted upon many successive generations; besides, there, a knowledge and love of art is sedulously cultivated, both in the education of the young and by means of public art collections. Now the United States possesses no immediate power to partially remedy this deficiency, except by direct training in the public schools; this has been shown to be practicable.

In this country where large fortunes are often accumulated in a single lifetime, it is more than probable that many a bright child who to-day is a pupil in the public schools, will, in the future, be found in that class of wealthy possible art purchasers just referred to; the influence of the elementary art training, which is urged for adoption in the public schools, is as desirable for the art purchasers as for the art workers; and it is for the true prosperity of the art industries that the buyers of this work should also possess trained art knowledge and taste, for demand dictates supply; and therefore, for producer and consumer alike, such art training in the public schools is desirable. Such training for all the dwellers in these beautiful cities of the future, whether they are to be producers or consumers, is most to be desired; for, having thus an intelligent appreciation and delight in art, they will, in either case, be in harmony with their surroundings.

It may perhaps aid in the solution of the questions we are about to consider if a little preliminary thought is given to an inquiry into the relation of the community as a whole, to all the expenditures of that community for any given purpose; both as regards the sum of expenditures made by private citizens for similar purposes, and the amount expended for like purposes out of the public money raised by taxes.

This may be the more readily apprehended if we conceive of the community as a person, who deriving his income from different sources, expends a certain sum upon objects of a given class. Whether the amount of the sum total paid for such objects bears a proper ratio to his income, and to his other necessary expenditures, is a far more important question to him, than whether one part of the sum was paid from the income arising from a certain source, and another from that arising from a different source. The total income is considered as a unit irrespective of its source, and the total expenditure is likewise a unit, irrespective of the agents who may pay it out; that is, in the case of our personified "community," whether it is paid out by private individuals from their own funds and under their own impulse, or whether it is paid out by officials from public funds, and acting under the specific authority of the community.

The objects so brought into the possession of the community form an integral part of its resources, irrespective of the agencies whereby they were acquired, or the personality of their immediate custodians.

The question of their immediate utility to the public, and of convenience of accessibility, is of quite another character. Many objects may, for a time, be so stored and so inaccessible, that they resemble rather the ore in the unopened mine, than the minted coin or the exquisite *chef d'œuvre* of the goldsmith; they are thus potential rather than actual wealth; and, in this respect, there may be a vast difference to the community between public and private ownership of books, scientific objects, and works of art;—the difference that exists between the rich miser and the expectant heir!

A consideration of these relations between the public and the private owners of such treasures, is here the more appropriate, because, in this designedly compendious Report, not only are Industrial Art and so-called High Art treated as simply different parts of a common whole; but the education of the community in both of these directions is held as influenced by all instrumentalities to which the citizens can have possible access; not forgetting the ever increasing volume of art literature, periodical and occasional, with the contemporary wealth of illustrations that have so raised the standard of the wood engraving in American magazines; which magazines, are doing so much, in various ways, to popularize an intelligent interest in art and in art industries.

And how varied and comprehensive are the forces, consciously or unconsciously, exerting upon the public these educating influences; comprising, as they do, not only institutions organized with the definite purpose of promoting the art culture of the community, but voluntary art associations for mutual self help; the display in shops of tradesmen's wares; and the hoarded treasures stored in private dwellings for the delight of individual owners!

To recount a few that most readily suggest themselves, will, perhaps, give a more tangible idea of these art possessions of the public. First come the public galleries founded by private munificence; then the occasional Art Loan Exhibitions, having their origin, it may perhaps be, in the pride of possessing such beautiful art works and the desire for public admiration,—reflected from the thing owned to its owner;—the schools of the Art Academics; the mutual art classes undertaken by enthusiastic art students; the night and day art industrial schools founded by Peter Cooper in New York, and the similar institutions in other cities; the Massachusetts State Normal Art School; the stated exhibitions of the drawings of public school children; the street window galleries of private art dealers luring every passer; and,—by no means to be omitted from any such enumeration of the art wealth of the community,—the numerous and increasing art collections of private owners more or less accessible to their friends, and to the public.

What are these, each and all, other than the "plant" already in the possession of the community, and available for the founding of the great Industrial and High Art Institutions of the future, which, in fact, are to be the great universities of the people; though they may be called by far other names and may resemble but little, in form and organization, the traditional classical university of the present?

As has already been stated, all the art works owned in a community go to make up the sum of its art resources; for, what does it concern the community which possesses these art works, and these art institutions, whether they have been procured and are supported by public taxation, as are the courts, jails, almshouses and other similar institutions of civilization, or, whether individual citizens have procured them?

This question naturally leads to a consideration of the subject in its relation to the laws of political economy, since all community expenditures are properly classified according to that science.

The rights of private ownership are individualized and emphasized in all laws and customs, especially in those having an English origin; the rights of property under English law,— whatever may be the theory of the law,— being practically far more carefully guarded than the rights of persons;— possessions being thus ranked, by the highest authority, as far more precious than human life;* it follows, that, as wealth is apparently mostly in the hands of private owners, the idea that this property holds any possible relation to the community, other than the payment of the taxes legally imposed for public needs, has been lost sight of; often indeed is unsuspected by the majority of the community, and is always conveniently ignored, so far as may be, by politic private owners.† The fact, however, that labor is the only producer of wealth, is an axiom of political science; that so-called "capital," is only the accumulated surplus of the products of labor, that which remains after the use of such an amount as is required for the support of the laborers, is another axiom.

All wealth then, being the product of labor, it follows, that all domestic traffic, or foreign commerce, is but the exchange of one product of labor for another product of labor. The reasons for the diversity in the relative values of these products of labor, are first, that the quantity of labor, that is, the cost of the support of the laborer for a given period and the time consumed in procuring or making, and in delivering these products to the consumer, differs; and, secondly, that a distinction in the character of the labor expended is recognized. This difference in kind, is expressed by the terms "skilled" or "unskilled" labor; a further difference in values arises from the fact that some qualities are very rare, hence articles made by persons capable of imparting to them such qualities acquire exceptional value. Art work, being entirely personal, depending wholly on the peculiar powers of the individual artist, and so limited by the ability of a single laborer to produce it, is necessarily rare and therefore may possess two elements of value,—relative excellence as art, and scarcity; hence, it follows, as a necessary corollary, that the most valuable laborers a community, large or small, could possess, would be art laborers;—true artists. The history of Italy, since the renaissance of art, is a complete demonstration of this proposition. To its great artists while living, and still more since their death, is due, in large measure, its prosperity. The desire to look on the works there preserved of the great historic artists of Italy, has, for centuries, drawn an ever increasing throng of visitors from all over the civilized world to that country; and the prosperity of living Italians to-day is largely due to the home market for their labor afforded by the influx of foreigners who come just to look at, and enjoy, the products of the labor of artists long since dead. The conclusion just expressed that the most valuable laborers a country could possess would be art laborers is strikingly confirmed by an item in relation to the works of an eminent living French artist which, as this Report is going through the press, appears in The Art Amateur of March, 1884: "The complete work of Meissonier consists, at the present moment, of four hundred and twenty pictures; * * * it has been calculated that as prices now run Meissonier's life's work represents a monetary value of some $10,000,000. These four hundred and twenty pictures have, however, not brought the painter more than $800,000; the difference, $9,200,000, has passed through the hands of those who have bought and speculated on his painting." In other words, this "difference" represents the worth, as mere merchandise, of the productions of this one worker to the fortunate community that possesses such a laborer.

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*The harrowing circumstances accompanying some recently reported evictions of Irish laborers, where the dying were ruthlessly thrust from shelter by the carrying out of English laws, would seem to fully justify the above statement.

†"The right of individual property is no doubt the very corner stone of civilization as hitherto understood, but I am little impatient of being told that property is entitled to exceptional consideration because it bears all the burdens of the State. It bears those indeed which can most easily be borne, but poverty pays with its person the chief expenses of war, pestilence, and famine. Wealth should not forget this, for poverty is beginning to think of it now and then." From the address by James Russell Lowell at Birmingham, England, October 6, 1884.

As labor is the only source of wealth, it follows that the disparity of wealth in the hands of private owners is owing to the fact that some have possessed themselves of a larger share of the products of the labor of their fellow human beings, than have others. A further consideration of the phenomena of private ownership and individual accumulation of wealth, would direct us into the discussion of a class of economic problems, by no means unimportant, but foreign to our present subject, which is the relation of the community to all expenditures made for the same kind of objects; whether such objects are paid for by private citizens of that community from their personal funds, or whether they are purchased by officials, and paid for out of community funds raised by taxation.

If we hold fast to the truth that all exchange of articles is but an exchange of the products of labor; that all the wealth of a community is but the accumulation of the surplus products of the labor of that community; we shall see that any exchange of products is always an exchange of the labor of the community, and is wholly unaffected by the personality of those who may make the exchange. In all cases of purchase or exchange, the product of the labor of the given community is transferred to some other community, in exchange for the product of the labor of that other community. The fact of the local taxation of personal property corroborates this statement.

It is easy to see that the community pays for the public almshouses, court-houses, and jails. The labor of the community has built up these buildings, when the same labor might otherwise have been expended in building factories, warehouses, and dwellings, public halls, libraries, art galleries, theaters, and churches, adding thereby to the wealth producing and wealth enjoying facilities of the community; and that this great tax, arising from the diversion of so much labor to the building of public eleemosynary or restraining buildings, is a tax imposed upon the industrious, virtuous and thrifty citizens, by the criminal, the idle and the unthrifty. By building these institutions of restraint, or of charity, the people recognize the need of sacrificing some portion of the products of their individual labor for the common needs of order and security.

Now order and security once provided for, the community, as does the individual, recognizes other needs, and is willing to part with the proceeds of its labor to supply these needs. When such articles as are demanded by the higher cravings of civilized humanity are once obtained, they are therefore rightly to be considered as a portion of the possessions of that community; nor can their influence, or the pleasure and instruction they give, ever be wholly confined to their individual owners; indeed commonly throughout the continent of Europe, and often, in the case of many private owners in America, such scientific, literary and art collections, are thrown open to the public; under as few restrictions as are compatible with the exigencies of private residences.

In illustration of this generous disposition of private owners of art collections, it may be here stated, with no invidious discrimination on the writer's part, toward the many equally liberal though here unnamed art owners, throughout the United States, that Mr. Corcoran, in Washington, Mr. Walters, in Baltimore, Mr. Gibson, and Mr. Claghorn, in Philadelphia, Mr. Belmont, Mr. Vanderbilt, and notably Mr. John Taylor Johnston, in New York, have, in some of these cases for many years, willingly admitted their fellow townsmen to their galleries; and have, on numerous occasions, placed their choicest works on public exhibition.

There is some instinct of fellowship in human nature that impels to a desire on the part of their nominal owners that others should see such works, though it may well be doubted whether any individual owner of these master pieces, any more than the mass of his fellow citizens, ever formulated to himself,—whether, in fact, he would not resent as impertinent and false,—any such statement of the truth of the case as that these beautiful works, which he had personally collected with so much pains, in which he took such delight, and for which he had parted with so much money, were, in any sense, the outcome of the community in which he lived; among whom he inherited from others, or himself acquired in business, his fortune. Still less would he be likely to imagine that he had been but the self-appointed agent of the community, in acquiring for it these treasures; or that the community had had any remotest agency in furnishing the means for their acquisition.

None the less is it true of the purchase of all such collections, that though the agents employed in the various transactions may be many, and the years intervening between the accumulation of the wealth and its disbursement for these works of art, not a few; yet, though in each case it is apparently a transaction between private persons, it is the community which pays for them; because, inevitably, labor pays for them since they are the products of labor which, if not given to them, might have been given to something else.

Now, that that labor was the labor of the community needs no formal proving, since it is clear, to the dullest comprehension, that the exertions of no single individual, though prolonged through the longest period ever allotted to human existence, would suffice to hoard up any such surplus beyond the sum used for his own sustenance, as would equal, the smallest of these accumulations which are now spoken of as "fortunes." The surplus labor of many individuals must be united, before any great aggregation of wealth can be accumulated; so that it follows that, whoever may be the holder of that sum, it, in itself, is but the result of the toil of many laborers, and therefore, it is the product of the community.

Paradoxical as it may at first seem, this applies equally to those fortunes accruing to individual inventors who, by new applications of science and ingenuity to hitherto unknown or worthless material, may be said to have thus created wealth; and who were, therefore, so cited in our previous summing up of the "sources" of the sudden accretion of wealth in the United States. The products of their ingenuity are only transformed into wealth by exchange, and are only given a money value by the willingness of others to exchange money, the representative of labor, for them; and the labor which is thus represented, is, as we have seen, the product of the community.

An Astor or a Vanderbilt, each master of many millions, buys a costly painting in Paris and brings it to this country; labor in this country paid for that painting just as surely as labor in France paid for the other costly painting, which, at the same time, the French minister bought for the government and hung in the Luxemburg Palace; and each community has exchanged so much labor of one kind for so much of another, equally whether the minister of state or the private citizen made the exchange of the commodities of labor requisite to secure the pictures!

This Report then merely attempts an enumeration of the art buildings, works of art, art educational appliances and instrumentalities, now accessible to the public; obviously, the art works held by private owners are not equally accessible for such enrolment; otherwise, if the statements just made are not erroneous, they would properly be enumerated in any such estimate of the art possessions of the community; as it is, they hold the same relation to public art galleries as do the unknown private collections of books to the known public libraries; that is, the community is vastly richer than it realizes, or than commonly appears, in books, and, likewise,—as the many comparatively recent "Art loan collections" have shown,—in works of art. It has thus already accumulated a valuable capital of knowledge concerning art, and of art works, which may serve to advance,—as books at home buttress and aid the work of the common schools,—the proposed new development of industrial and high art, as a factor in education, and a source of material wealth and of increased refinement.

By thus grouping in one view, as is attempted in these volumes, all these scattered and varied local institutions, formerly but little known beyond a limited circle, it is hoped that a valuable contribution will have been made to the material requisite for a full consideration and wise decision of the question as to how far the public shall direct education towards the industrial and artistic development of the manufactures and industries of the people.

To return, for a moment, to the statement that in the economic consideration of the expenditure of a whole community for a given purpose, it mattered little whether this was done ostensibly and formally by the community officially, or whether it was done either in whole or in part by individual citizens.

Let us take a once familiar instance. When public free schools were first introduced, as they were some fifty or more years ago in many New England communities, they met with fierce opposition from two classes; namely, from reluctant and short-sighted taxpayers, who objected to paying for the schooling of their neighbors' children, and from those pecuniarily interested in maintaining private schools; the numerous obstacles having their origin in social or religious prejudices, though sometimes by no means insignificant, proved to be so ephemeral as not to need mention. As the public schools began to improve, many taxpayers, patrons of the private schools, reasoned that it was useless to pay *twice* for the schooling of their children, so new public school-houses and additional public school teachers were necessitated, because there were still just as many school children to be sent to school and taught, after the private schools were given up, as before. If all the children in the community were to be taught, which is assumed; what difference did it make to the community as a whole, whether they were nominally taught in public and in private schools; or all in private, or all in public schools, unless some advantage might inhere to one or to the other, in better economic arrangement by which one roof might shelter a larger number of children, or better instruction might be given; which latter considerations, by the way, have been practically, in most New England communities, decided in favor of public schools.

Shelter was required for so many children, teachers were required for so many children, the community was to provide these; to pay for them, to divert so much labor from other industries and purposes to this; this being so, what was it but a question of convenience whether it was done as a community for public school expenses, or as individuals for private school expenses? The private teachers were employed in the public schools, the tax paying parent saw that his own children were taught at the same time and as thoroughly as his neighbors, and the few childless taxpayers had long before learned to look on "education" as their cheapest "insurance tax."

This relation of the means and appliances of culture to the community, which the evolution of the public school system exemplifies, underlies all the instrumentalities of civilization. Every community in its onward progress resembles Wordsworth's cloud, which

Heareth not the loud winds when they call
And moveth all together, if it move at all.

No person can be wholly separated from the community in which he lives, or be very different from those by whom he is surrounded, humiliating as the fact may be to individual self-conceit, nor can any evade the debt owed to ancestors and to contemporaries; he is what he is, by virtue of what they have been and are. Every man is largely the creation of his environment, on which he, in turn, reacts.

Were it not for this mutual interdependence between the individual and society, there would seem something almost inexplicable in the persistence and certainty with which all large private collections of desirable articles such as books, statues, paintings and works of art industry, continually break away from private ownership, and seek the public libraries and museums; as it is, an unerring, unresting law of justice, underlies and necessitates the movement. These works were the product of the community, of its civilization, its wealth, its labor, and they return to it by an instinct as sure as that of the finny sea-wanderers to their inland haunts of brook and river. Aladdin may compel these genii to serve him for the time, but they are the slaves of the lamp, not of the man; and, as the community is always richer and more powerful than any one of its individual members, so, sooner or later, it holds Aladdin's lamp, and, thus compelled by the genii slaves of the lamp, the *chef d'œuvres* of the artist escape from the custody of the connoisseurs, and find their longed for and predestined home, on the walls of the Public Gallery! The choice volumes of the book fancier reach the shelves of the Public Library.*

The great creative works of man's genius can no more be narrowed down to private ownership, than can the sky, the ocean, and the liberal air.

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* The ink on this page was hardly dry when the following item appeared in the New York Tribune of January 3, 1884:

"Yesterday it became known in Preston," says *The Manchester Guardian* of December 20, "that Mr. Richard Newsham, who died on Friday last, in his eighty-sixth year, had bequeathed to the corporation of Preston, his native town, the whole of his magnificent collection of pictures, bronzes, statuary, and porcelain, valued altogether at from £60,000 to £70,000. These treasures are to be placed in the art galleries of the Free Library and Museum, a splendid building now in course of erection on the east side of the Market Place, for which the trustees of the late Mr. Harris granted £100,000. Mr. Newsham's gallery includes twenty of W. Hunt's water colors, and many works by Linnell, sr., Holland, Frith, Egg, Herbert, Leslie, Maclise, Cox, Poole, etc. Among them are 'Antwerp Cathedral,' by D. Roberts, with whom Mr. Newsham was on intimate terms for many years; Etty's 'By the Waters of Babylon,' and 'The Guards Coming up Whitehall,' by David Cox. It is stated that the late Emperor Napoleon III., when in the height of his prosperity, was extremely anxious to become the possessor of Mr. Newsham's whole collection of art treasures, which, fortunately for the inhabitants of Preston, the deceased gentlemen declined to part with at any price."

INDUSTRIAL RELATIONS OF ENGLAND TO AMERICA IN THE LIGHT OF HISTORY.

Former policy of England toward her colonies — English monopoly of the American beaver — Sealskins sent to-day to London to be dyed — The industrial development of the American colonists sedulously repressed by the English Government — Colonists were to be held as customers not suffered to become rival producers — Causes of the Revolution to be found in an industrial rebellion — Policy of England to-day unchanged — Free trade essential to the crowded population of a limited island — This island policy not necessarily the best for a continental people — England's desire to manufacture for the world — England seeks to monopolize the carrying-trade of the world — Superior skill in arts and industries a better safeguard for a nation than tariffs — Causes of persistence of English influence in America spite of influx of alien immigration — American schools tend to produce homogenity of people and to suppression of dialects — Indications of a renewal of English emigration to the United States — English school geographies — Knowledge of the United States and emigration to "the States," sedulously repressed by England for a century — English and European estimates of the United States, previous to 1860 — European estimate in 1830, see Chapter V, Lounsbury's Life of Fenimore Cooper — Historical summary of England's course towards the United States for a century — Great Britain and her colonies at the Centennial — Preponderance shown of English-speaking and protestant races — Probable increase of English-speaking people — Mr. Gladstone on this prospect — Statistics showing past and estimated increase — Letter from Mr. Gladstone to Mr. George W. Smalley of the New York Tribune — Comments by London Times — Oration on "Democracy" at Birmingham by James Russell Lowell.

As there was occasion in one of the preceding papers to refer to the existence of a decorous domestic architecture in the early years of this Republic, so, for similar reasons it now seems proper, in view of the emphasis given to the fact that such art opportunities and artistic training as are common in European countries have been almost wholly lacking in the United States, that equal prominence should likewise be given to the fact that, despite these evident disadvantages, there had been, long before the era of the Centennial Exposition, a very considerable development of artistic industries in this country; enough, certainly, to warrant belief in the art capacities of Americans, and to give confidence in the future evolution of art in America in all possible phases.

It also seems fitting, since the publication of these volumes has been so long delayed, that some attempt should be made to recount the evidences that, in the nine years that have elapsed since its close, the Centennial Exposition has effected some practical results by stimulating the creation of new, and the development of former art industries.

In neither of these fields can the present papers lay any claims to completeness, for, while an exhaustive research in both would be full of interest, it would not now be possible to give the results of such an investigation in the present work; all that can be attempted is in the way of general statements and suggestions. There are a sufficient number of well known facts to demonstrate the existence of many art industries in the United States during the first century of the nation's history, while evidences of the great stimulus given to the development of such industries by the Exposition held in Philadelphia in 1876 everywhere abound.

It should be remembered when making such comparisons, that the policy of England towards her colonies and dependencies during and long subsequent to the time she held the united American colonies, was to discourage and, so far as was possible, to prohibit any independent development of manufactures. The colonists were to be the legitimate and permanent customers of English manufacturers, dependent upon the mother country for all they needed, but were never to be suffered to become their rivals!

As an instance of this policy it may be stated, that, although America was the home of the beaver from whose fur men's hats were then made, the colonists were rigorously prevented from making their own hats; the skins must be sent to England, and the hats made there were to be bought, at high prices, by the Americans who had trapped the beavers! It is a somewhat curious fact, illustrative of the persistence of a given industry when once established, that, to-day, though the Aleutian Islands, the home of the fur seal, belong to the United States and the seal fishery is the monopoly of an American company, yet the requisite preparation and dyeing of the skins to render the furs marketable is still done in England!

For the first hundred and fifty years of their history as colonists, the settlers in America were thus held in leading strings; while any independent development of the natural resources of the country, or of the inventive genius of the people, was sedulously repressed. Bricks for building were imported from Holland and from England, though the plastic clay, out of which so many cities have since been built, lay beneath their feet and vainly waited their labor. Tools and manufactures were imported. The native forests indeed furnished timber, and the sturdy settlers the labor needed to erect their houses of wood, but their architecture was English, and English furniture filled the houses.

Such spinning and weaving as could be done in the farm houses by wives and daughters, was, happily, beyond the reach of English governors, and homespun was the colonists' sole defence against English exactions; for the undertaking of any manufacture was in every way discouraged.

The outcry against the stamp act and the spilling of the tea in Boston Harbor, were but the outbursts of a flaming resentment, not longer to be repressed, against continued and petty tyrannies in the interest of the English manufacturer and shopkeeper. The political revolution that ensued had its roots deep in an industrial rebellion!*

In the endeavor to impose upon all peoples, especially upon the people of the United States, the supremely selfish doctrine of free trade, England still pursues the purposes of two centuries ago; only, as the United States has become a powerful nation, she now uses persuasion where then she thought no other arguments than those of brute force necessary; as witness the destruction and prevention of any independent industries in Ireland, which could by any possibility rival those of England.

That the descendants of the Americans of the Revolution should so little heed the causes which led to that momentous event; should profit so little by the experience of their ancestors as to tolerate in their universities and colleges the inculcation of English free trade theories; should, in other words, train their educated classes to a theory of political economy which is in direct antagonism to the productive interests of their country—is passing strange.

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* The following sentence taken from an abstract of the address delivered by the Marquis of Lansdowne, Governor-General of Canada, in Victoria, British Columbia, October 12, 1885, on the subject of British Colonial Federation, is quoted as sustaining, incidentally, the assertions here made in regard to the attitude of the mother country towards the colonies. Lord Lansdowne said that "the feelings of Great Britain towards her colonies had passed through three separate phases: First, that of grasping selfishness, which ended in the loss of the American colonies; next a period which was one of indifference; and the last is one of strong desire for a closer union—for federation."

ent work is, in fact, largely a record of the influence upon American development of English thought and action subsequent to the holding of the World's Fair in Hyde Park in 1851. Although the people of this country may be, from many causes, more readily responsive to European Continental, and to Oriental influences in matters of taste than are the English people, it is still true, and must long remain so, that the most effectual influence because most permanent and persistent in its action, in modifying and shaping the education, the industries, and consequently the politics, and policies, of the United States, is to be found in the example of England. A common language and literature, a common origin, with its store of memories, customs, and beliefs,—though in this instance somewhat modified by accessions from other nations,—must lead inevitably to a cognate development, and to sympathies and characteristics, which must outlast all prejudices and antipathies originating in transitory causes.

The self-respecting American of this last quarter of the Nineteenth Century, while he will equally avoid the extremes known respectively as "Anglomania" and "Anglophobia," and will seek to carefully conserve the social and political differences, designedly and wisely established by the founders of America when they initiated the experiment of the new Republic, seeking by means of those changes to avoid the perpetuation of certain evils inherent in English laws and customs,—since, as has been well stated, "their problem was how to adapt English principles and precedents to the new conditions of American life, and they solved it with singular discretion";—and, while he acknowledges the debt due to France for aid given to the infant Republic during the war of Revolution, and recognizes as continuing, the formative influence of the artistic culture and the art manufactures of the French, upon the tastes, manners, and fashions in dress, of the American people; and farther, while he realizes the modifying influence of the vast immigration of Germans since '48; and the influx from Ireland, beginning with the years of famine that desolated that fair island; and while he in no wise ignores the circumstances peculiar to America in the presence of so large a population of African Americans, and in the new problems arising out of the events of the last twenty-five years; must still, when all these conditions have been summed up, admit, that, in spite of all these opposing and modifying elements, the influence of England, of English thought, manners and customs, philosophies, laws, literature, and science, upon the development and progress of America, in all the

It is England's policy now, as ever, to manufacture and carry for the rest of the world. Certainly, as a policy for an island nation which must obtain the food necessary for its existence from other lands, it is comprehensible; but why a continental nation, containing within itself all resources essential for the existence and prosperity of its inhabitants, should adopt a policy invented for, and adapted to, diametrically opposite conditions, passes comprehension.

While there would be manifest impropriety in entering here upon a political disquisition as to whether the doctrines of free trade or those of protection are now most desirable for the United States, it seems entirely pertinent to enter a protest against the unquestioning acceptance and promulgation in American colleges of English theories of political economy, which may, or may not, be desirable for adoption by this country; since in any event the question is largely one of expediency varying with circumstances, for certainly to be able to accurately predict the exact moment when an infant industry could go alone and no longer stood in need of any outside aid, would demand the infallibility of inspiration. Nevertheless, essential as protection may be during the infancy of industries, superior skill in the arts and manufactures forms a better security for a people than any device of tariffs on imports. The purpose of this work is the consideration of methods for promoting and making general such knowledge as will tend to impart and develop this skill on the part of the people of the United States. Other questions, which may arise in the progress of this consideration, are to be held as simply incidental and subordinate, though often, it is believed, coöperative to this purpose.

When Matthew Carey came from Ireland to Philadelphia, he retained so vivid a memory of the wrongs inflicted by England on the industries of Ireland, that he clearly comprehended, that if Americans were ever to be independent politically, they must be equally independent industrially. This truth has never since been quite forgotten in Philadelphia. When it is remembered that the beginning of the present century is practically the date of the beginning of the inventions and manufactures of the American people, some idea is conveyed of the surprising rapidity and extent of their industrial development.

In the preceding pages sufficient reference has been made to the English influence perceptible in the early architecture of the United States, and to the long continuing influence of England in all matters of taste and fashions in buildings, furniture and dress; while this presvaried phases which are included in the term "civilization," largely preponderates.

If the reason is sought for this surviving influence of a country which, during the past half century, has contributed but a small minority to the great throng of emigrants, fleeing from narrow European conditions to limitless American opportunities, it is not hard to find. For more than two centuries, including the first half century subsequent to the Declaration of Independence and the successful organization of the new Republic, the white population of the American Colonies and of the United States was practically homogeneous. During the Seventeenth, Eighteenth and first half of the Nineteenth Centuries, the great majority of white people occupying the Colonies which subsequently formed themselves into these United States, were either them selves emigrants, or were the descendants of emigrants, from England, Wales, Scotland, and Holland, and were of the Protestant faith. The exceptions were few and local. A colony of English Catholics in Maryland, an early settlement of Moravians in Pennsylvania, settlements of Germans in the same State, settlements of Swedes on the Delaware River, exiled Huguenots from France, in South Carolina and in Virginia, comprised most of them. Later, some of the Hessian mercenaries, brought over by the English to aid in suppressing the rebels of 1776, remained and became citizens of the new nation. A few Spaniards in Florida, and the cession of Louisiana with its sparse population of Spanish and French origin, contributed, still later, a fractional Catholic and Latin element to the total of the population. But with all these exceptions,—and it is an interesting study in sociology, which affords striking illustrations of the influences of heredity, to trace the subsequent influence and extension of these several scattered communities,—it remains that, up to the time of the terrible famine in Ireland in 1845, with its enforced exodus, the population and traditions of the United States were substantially English; so that it is in no wise strange that the present development of the American people should still partake largely of English characteristics.

The universal system of free schools in the United States, and the consequent adoption of what is practically a fixed standard of language, of which, whatever else may be said, it cannot be denied that it avoids a difficulty common in England, as well as in all other European countries; viz: the existence in a country, of local dialects, idioms and provincialisms, incomprehensible, or understood with difficulty, by those from other parts of the same country, has accomplished this result that the English language as spoken in the United States is readily understood in all parts of the country. This fact, taken in connection with the ubiquitous press, makes possible here such rapid dissemination of intelligence, as well as such contemporaneous educational efforts, as have hitherto been possible in no other country.

It is because of the existence of such exceptional facilities that it has been thought advisable to set forth, at length, the needs and methods of universal training in industrial arts. While, from obvious conditions, the underlying causes of which have just been suggested, English examples and methods are given and detailed with great minuteness, as furnishing, on the whole, the best models for American instructors;* the results of the experiments and methods of other nations, from whom in fact England was not unwilling to learn, have been carefully sought and are likewise presented. The aim in the preparation of this work has been to give to the American public,—to educators, manufacturers, artists, artisans, and to legislators, an account of whatever in the experiments and experience of other countries may be of use or of interest in our own.†

Before concluding these references to the origin of the American people it may be stated that the causes just noted as affording unrivalled opportunities for rapid dissemination of educational methods, are also equally efficient in their tendency to produce, and preserve, a homogeneity of population, despite the diverse nationalities of the emigrants to the United States during the last forty years. There are also indications that a renewal of emigration from England to that part of the continent of America occupied by the United States, is probable in the near future, if it has not already begun:—an emigration resembling in some desirable characteristics that to New England early in the Seventeenth Century, in that it is a voluntary going forth of reputable and well-to-do citizens, and not an enforced deportation of criminals and paupers.

For many years emigration from the British Islands to India, to Canada, to Australia, to New Zealand, to the Cape of Good Hope, to the West Indies, to any of the colonies, or dependencies, of Great Britain, has been actively encouraged. During all this time not only was emigration to the United States discouraged, but the country itself was designedly ignored; as much space being given in the school geographies used in English schools a quarter of a century ago, to an account of the little group of the Sandwich Islands with their scant population, as to the description of the vast territory of the United States stretching from ocean to ocean with its millions of inhabitants. In the Times, and other daily journals of London, it was evident that news from the smallest German principality or duchy, or from the most distant and insignificent Asian or African kingdom, was considered to be of far more importance and interest to their readers than any intelligence from the United States could possibly be. When, on rare occasions, any allusion was made in the public journals to the United States, the ignorance displayed of American geography would have been incredible to any one who had never seen the English school text books of geography, and thus have realized how shamefully, in this respect, the education of Englishmen had been neglected! What could be expected of a man who had been carefully taught in childhood to consider the United States of less importance in the world of matter or of mind, than a little group of volcanic islands in the Pacific Ocean? This one instance sheds a flood of light upon English ideas, policies and methods. As a rule, in the journals of England or of the Continent, when any items of news were given from America, they were such horrible stories of crime and brutality as would convey the impression that the United States was, at best, a semi-barbarous wilderness; and yet, somehow, by an instinct similar to that which informed the Southern slaves through all the four years of war of the progress making towards their actual freedom, the dumb millions of Europe knew that America was a land of liberty and of hope!

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* See Appendix F; also Appendix C, for the English system as practically modified to meet the needs of American public schools.

† See Appendices to Parts I and II for reports of various European systems and training schools.

If any readers have a curiosity to see how their country and countrymen were regarded, both on the Continent and in England, only a half century ago, they will find it admirably and concisely stated in the fifth chapter, entitled "European Estimate of America," of Professor Lounsbury's recent interesting life of Fenimore Cooper,* the great American novelist, whose stories first taught the people of the Continent that America made any pretensions to literature.

Irving had already been accepted by the English, but Cooper was long the more popular author with continental readers. The present writer can bear witness that a quarter of a century later the statements of Cooper were not by any means obsolete as to the general ignorance prevailing in regard to America. Indeed, so far as the European conception of the character of the American Indian was concerned, Cooper was himself largely responsible. At the time of which I speak Longfellow was more generally read in England than Tennyson, and was, I think, quite commonly supposed to be an English poet, while Mrs. Stowe's "Uncle Tom's Cabin" had awakened an indignant prejudice against the United States all over the world; for there was not then sufficient knowledge of American geography prevalent to enable the European to discriminate between Garrison and Legree, Boston and New Orleans! Indeed the people of South America were frequently supposed to be fellow countrymen with those of the United States.

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* James Fenimore Cooper, by Thomas R. Lounsbury, Professor of English in the the Sheffield Scientific School, Yale College. Boston. Houghton Mifflin & Co. 1883. pp. 306.

Every American was held responsible for all deeds committed in America, and the most fiery Southerners were calmly called "Yankees." For illustrative instances of this promiscuous attribution of responsibility witness Sydney Smith's denunciations of all American securities in consequence of the repudiation of her debts by Mississippi, and later the arrest and confinement of Horace Greeley in Clichy prison. When one began to realize these facts, the supersensitiveness of Americans to European, and especially to English opinion, became ludicrous in the extreme. In America, during the first half of the Nineteenth Century, in literary circles especially, the question was, "What is thought in England? What will the European critics think?" The answer that neither England nor Europe knew or cared anything about American literature would have shocked these sensitive souls. It was, however, absolutely true. An American in Europe at that time, no matter what local pride in State or city he might have had, soon learned that the Nation of the United States represented by the Star Spangled Banner was known, but the subdivisions of the Nation, though "sovereign," were uttterly unknown and ignored.

The importance of the Union began to be understood by Americans when abroad. One soon realized that America was without the pale of English sympathies when the knowledge of England and the interest felt in its history, literature, and localities, by all Americans having any claims to education, was contrasted with the dense ignorance and absolute indifference of educated English people as to matters American. A little reflection showed that this striking difference of interest and of intelligence arose from the fact that colonists naturally take pride in the history of the mother country, while but few of the people of that country have occasion to know or care about the far-off colony. Painful as it might be to local and national pride to admit it, the truth was clear that the people of the United States were still provincial in many of their relations towards England.

It was not till nearly a hundred years subsequent to the Declaration of Independence that they really began to outgrow, in a measure, this provincialism. Of course it should be understood, in all such general statements about classes and countries, that notable exceptions exist. There have always been in England a few who have taken an intelligent interest in the United States from the days of Chatham and Burke to those of John Bright, just as in France the people of the young Republic who represented freedom and popular Government have found friends, from the days of Lafayette to those of Laboulaye.

The impressions received by Americans as to the general feeling in England towards America, however, twenty-five or thirty years ago, will be found set down in the writings of two of the clearest-visioned observers that ever looked at the Old World through New World eyes—Nathaniel Hawthorne and Ralph Waldo Emerson—in "Our Old Home" and in "English Traits." While the contemptuous verdict of Carlyle on America and its institutions will not soon be forgotten.

The English had learned enough about the country, by 1861, to render them very active in trying to aid its disruption! The distasteful lesson of the Alabama award, following after the success of General Grant at Appomattox, suddenly apprised them of the existence of a powerful country beyond the Atlantic; and when the International Exhibition of the Centennial was announced England accepted the opportunity it offered for securing American customers. We, on our part, found in their exhibitions much valuable information of which we did not hesitate to seek to avail ourselves.

It will, however, be advisable for those who wish to preserve their self-respect as Americans when considering the relations borne by England to the industrial development of this country, to remember that England has always done her utmost to prevent any industrial, or political development of the American people.

In 1776, the colonists were obliged to enter into war with England in order to begin any industrial development of their own resources!

Twenty-eight years after the close of the Revolutionary war, they were forced to go to war with England again to vindicate their right to sail the seas!

Nearly fifty years later, England eagerly availed herself of the opportunity afforded by the Southern rebellion to destroy the foreign commerce of America; and did it effectually. Most, if not all, of the so-called Confederate cruisers, were built in British ship yards, and armed and victualled, if not mainly manned by British subjects; while the Colonial Ports of Great Britain were as freely opened to those armed ships whose whole purpose was to destroy the peaceful merchant ships of the United States, as they were to the cruisers of the friendly United States, although the flag under which they sailed was one unrecognized by England.

In addition to these consistent acts of continuous hostility, England, as has already been stated, has succeeded in introducing into American colleges the text books written by her professors of political economy, and American young men are thereby indoctrinated with English free trade ideas; which it usually takes them from five, to twenty-five years, to recover from. Nor are these, by any means, the only emissaries of English policy in America. Certain so-called leading American journals in New York City and elsewhere, for reasons best known to themselves, advocate English free trade theories; while the English "Cobden Club," whose avowed purpose is the propaganda of English free trade ideas, makes special effort to secure, by courtesies extended, the influence of leading Americans, and also circulates pamphlets and other printed matter as widely as possible in the United States. In short, it is a matter of public notoriety that England neglects no available opportunity to disseminate, in America, the free trade theories she deems so essential to her interests.

In considering these theories it is well to keep one fact in mind, and that is, that from the first hour of English settlement in America down to the present time, the active influence of England has been constantly exerted to prevent, retard, and destroy, the industrial and commercial development and prosperity of the United States.

No amount of later compliments or courtesies, however unusual or distinguished, paid to living or deceased Americans, can obliterate these historical facts; or, should be suffered to weaken the memory of them in the minds of patriotic Americans mindful of their country's welfare; because, the situation of Great Britain is such, that the necessity of self-preservation compels her to continue in the same course towards this nation that she has ever adopted.

The historical events just recited may be commended to the consideration of such youthful Americans as find themselves inclined to Anglomania;—who affect English costumes and customs, in dress, manners and speech, and who would esteem it a compliment to be taken for English;—"which they never could be, you know!"

On the other hand, there were certain object lessons set in the Main Building of the Centennial Exposition for all to see, which may well modify the opinions of those who are inclined to Anglophobia and feel the stirrings of an hereditary resentment against the one consistent and persistent opponent of the American Republic.

Doubtless, in the present era of effusive compliments, the possibility that Americans could regard any past or present actions of England as designedly unfriendly would be warmly protested against; but two and a half centuries of consistent history are not to be obliterated by a few smooth phrases. England has to-day, and with each passing day, ever more pressing need to secure and retain customers for her varied manufactures; and therefore, it is impossible that any policy which is wise for her, commercially speaking, can as yet be advantageous to this country.

It may be well for us to adopt similar methods for developing artistic skill in manufactures and industries to those which England has found successful; but Americans should always remember that, owing to the differences of the situation, the policies of the two countries must also necessarily differ. The United States must adopt, sooner or later, a continental policy; one best adapted to the development of the immense natural resources of the country, and best fitted to promote the industries and manufactures of the people.

Although it has seemed proper to thus briefly recite the historical relations of England to American industries, it is only simple justice to state that in these latter days so far from manifesting any disposition to prevent or retard the movement for developing industrial art training in the United States, the educational authorities of England have offered every aid and every courtesy. The important English historical pictures contributed to the Centennial were loaned by the Queen and Prince of Wales, while the beautiful examples of the English masters of to-day were sent by private owners. There were no English pictures for sale. These paintings, most interesting in themselves, were more notable as a proof of international courtesy. The valuable gifts and loans made to the Pennsylvania Museum and School of Industrial Art, (from the various collections sent from England,) witness to the generous liberality of the English authorities and of private English exhibitors. English educators, scientists, and literary men are now accustomed to extend and receive mutual courtesies in their intercourse with their American co-workers. It may be that the facts causing the reflections which follow, have had no influence in inducing this happy and most desirable change in the attitude of the English towards Americans. Be that as it may, the situation of the world as made evident at Philadelphia, is most impressive to one born to the inheritance of the English tongue. In the light of the present, in the glowing promise of the future, there is no room for hereditary resentments however justifiable.

Until the millenium dawns, individual nations, just as are the heads of private families, are charged with the protection of the lives and the promotion of the interests of their own citizens. It is easy to see that these interests may demand very different conditions on the part of England and of the United States; that what would be most conducive to the selfish interests of the English-speaking people dwelling in Great Britain, might be disastrous to the interests of the English-speaking people dwelling in these United States. The fine-sounding philanthrophy which urges that American statesmen ought to consider the questions that arise simply in their universal relations, and not in the narrow view of how they may affect the interests of the citizens of the United States, is not only premature but sophistical. Policies urged by England should be considered under all the light that the events of the past can give.

But to return to the lesson set by the Centennial. In walking through the aisles of that immense buiding, known as the "Main Building," of the Centennial Exposition at Philadelphia in 1876,—in which all the world set out their best displays of artistic manufactures, there came to the thoughtful observer, a sudden revelation of the relative importance, power and destiny, of the white, English-speaking, Protestant races of the earth!

The showing made by England, and her Colonies, the evidences of the numbers, wealth and civilization, of English-speaking people in Australia and New Zealand, as well as in Canada and the Cape of Good Hope, led one to realize that it was not only the English colonists who came to America in the Seventeenth Century, who were developing into a great empire!—The term "Greater Britain" began to gain significance!

Great Britain and her Colonies occupied as much space in and made as important contributions to the display in the Main Building, as all the rest of the world outside of the United States;—while the United States, occupied as much space, and contributed as much in bulk, as the rest of the world including Great Britain and her Colonies. Of the character of this display by the United States enough has been said elsewhere. In its potentiality, its assurance of unbounded natural resources awaiting development, it was amazing and full of encouragement;—in its evidences of the almost universal ignorance on the part of Americans of the industrial applications of art it was humiliating.

It is, however, in the revelations made in that building of the limitless material resources, of the energy, enterprise, and artistic capabilities of the English-speaking races, that we are now concerned. The United States, with England and its dependencies, occupied three-fourths of that vast building; and when one came to reflect on the relative power and place on the earth, of the several nations, it was startling to realize the preponderance then actually existing in favor of the English-speaking peoples; and to reflect upon the immense energy of this race, already so powerful. Certainly, if the cognate Germanic peoples are included, no one seeing that Exposition could doubt that the immediate future of civilization rests with the protestant white races.

Thus presented in concrete form as an immense object lesson, in which the productive skill, taste, and resources of the nations were displayed, the opportunity was afforded for the first time to the people of the United States, to see for themselves these relations between the nations; and, by instituting comparisons to arrive at a just measurement of the relative achievements, deficiencies, and possibilities of the United States.

To English statesmen, busied with the affairs of the world-wide colonies and dependencies of Imperial Britain, and, of necessity, familiar with their rapid growth and development, a knowledge of the fact of the amazing relative increase in numbers, and in power, of the English-speaking people, during the nineteenth century, as compared with those of other nationalities, must long ago have become familiar. To the present writer as probably to most Americans, this revelation came,—as already here recited, and as was stated in print at the time,—when seeing the displays shown by England, and her Colonies, in the Main Building of the Centennial Exposition, taken in conjunction with the American displays there set forth. It may be, that the possible meaning of this aggregation of the kindred peoples, there seen, was first made manifest to English statesmen, by their abrupt realization, about 1865, that, since 1812, a mighty power had silently developed beyond the Atlantic. Be that as it may, the fact, once realized, is of such stupendous import that its interest may not readily be exhausted.

The rapid growth and prospective increase of the English-speaking Americans was early a favorite subject with American statesmen, philosophers, and orators, and often appears in their orations and essays, with elaborate computations based on the ratio of increase shown by the decennial count. Most of the computations proved too large, but the estimate made by Mr. Fenimore Cooper in 1830 was wonderfully exact. In fifty years, he said, the United States will have a population of fifty million of inhabitants, and then the English people will take as much pains to court them as they do now to ignore and insult them! The census of 1880 enumerated but a few thousands more than the number as estimated by Mr. Cooper, and the remainder of the prophecy seems no less accurate. Though the growth of the population of the Republic was thus quite generally anticipated, there appears no evidence that the thought of the present world-wide expansion of the English-speaking people was ever suggested. This element of unexpectedness renders a realization of the facts as they now exist all the more overwhelming. It opens a vista of progress for the world the potentialities of which reach sublimity.

If the ratio of increase of English-speaking people is to continue the same for the coming century as it has been during the last, it follows, that the coming competitions for this American people are to be with a people of similar lineage and language. It is, then, all the more incumbent upon the legislators, and educators of the United States, that the coming generation of Americans shall be as thoroughly trained and fitted for the struggle for existence, as are the coming generation of Englishmen. It is no longer with semi-civilized races, but with a people of their own race, that they are to contest for the prizes of the world. In such a contest, victory must turn upon the possession of superior skill and science, since the other factors are equal. In this connection, the following paragraphs from a recently published letter, written by Mr. Gladstone then Prime Minister of England, to Mr.

Smalley the London correspondent of the New York Tribune, are apropos. The letter grew out of a chance complimentary reference to George Washington, by the Premier at a social dinner, followed by some remarks on the probable increase and destiny of the English-speaking people; the latter drawn out by a suggestion made by Mr. Smalley as to the importance of promoting a good understanding among all English-speaking peoples the world over. Under date of October 4, 1884, Mr. Gladstone, after an elaborate tribute to Washington, whom he places on a very pinnacle of fame, recurs to the topic of the English-speaking peoples and says: " * * * the prospect it opens to me is as vast as it is diversified, and it is so interesting as to be almost overwhelming. Mr. Barham Zincke, no incompetent calculator, reckons that the English speaking peoples of the world one hundred years hence will probably count a thousand millions. Some French author, whose name I unfortunately forget, in a recent estimate places them somewhat lower; at what precise figure I do not recollect, but it is like six hundred or eight hundred millions. A century back I suppose they were not much, if at all, beyond fifteen millions; I also suppose we may now take them at one hundred millions." * * * "What a prospect is that of very many hundreds of millions of people, certainly among the most manful and energetic in the world, occupying one great Continent, I may also say two, and other islands and territories not easy to be counted, with these islands at their head, the most historic in the world. In contact, by a vast commerce, with all mankind, and perhaps still united in kindly political associations with some more hundreds of millions fitted for no mean destiny, united almost absolutely in blood and language, and very largely in religion, laws, and institutions.

"If anticipations such as these are to be realized in any considerable degree, the prospect is at once majestic, inspiring, and consolatory." Mr. Gladstone continues eloquently and forcibly to develop the topic.

The London Times, of February 13, 1885, which reprints the letter from the New York Tribune, has a column editorial thereon. After reciting the circumstances and the conversation which led to the letter, the Times says:

"As far as Washington is concerned we have nothing to say. It is eminently desirable in writing or speaking to an American to say nothing disparaging of the Father of the Republic; and this maxim Mr. Gladstone evidently remembered and emphasized after his fashion. It did not seem to occur to him, as it will occur to many of his readers, that there was a certain incongruity between the praise of Washington and the praise of union among English-speaking peoples. Washington was a great man, beyond question; a soldier of eminent natural gifts and a high-minded statesman; but it sounds a little paradoxical to associate his name with a promotion of kinship and union between us and our American brethren."

If anything could add to one's appreciation of Mr. Lowell's delightful humor in the essay referred to below, it would be to read the opening sentences of the above paragraph in connection therewith!

The Times, goes on to say that "Mr. Gladstone, like others who have had the same vision, is lost in wonder at the thought of the numerical future of the English-speaking race."

The Times, sees however that other links are necessary to complete harmony between these kindred peoples; "Sentiment indeed is a real force; * * * But it is hardly safe to trust to it unless a sense of interest goes with it. Without such a sense it produces a vast number of fine speeches and a pleasant interchange of civilities in times of peace and concord, but it is not likely to stand any severe strain."

Our next quotation shows that the Times clearly recognizes the antagonism that must exist between a continental nation, and an island one; to which we have already alluded. The remarks of the Times do not however refer solely, or perhaps chiefly, to the people of the United States, when it says: "Meantime, two chief difficulties seem to stand in the way of a complete understanding, such as Mr. Gladstone, and every Englishman with him, desires. One is that half the English-speaking peoples are at this moment fiercely and tenaciously protectionist, and are far less disposed to admit our goods to their markets than the goods of any other nation in the world. The other is that the Irish race is also 'English-speaking;' that it multiplies as fast as the other elements, or faster; and that no lapse of years seems to bring it into real harmony with the men of English blood. These are two rather serious obstacles to the millenium of agreement and 'peaceful primacy' which is the subject of Mr. Gladstone's day-dream. Perhaps they too may be removed if policy is continuously and deliberately directed towards producing, throughout the hundreds of millions that sense of community of interest of which we have been speaking."

These latter paragraphs may serve to show that there was no undue exaggeration in the previous statements, concerning the consistent and persistent propaganda in the interests of England, of English theories of political economy and free trade, throughout these United States!

Before passing from this consideration of the relations between the United States and England, two papers may be commended to all Americans interested in the topic, one, an essay by James Russell Lowell, "On a certain condescension in Foreigners," in which, at first half hidden by the delicious playfulness of incisive humor characteristic of the author of "The Bigelow Papers," there blends an element of sound common sense, with an occasional outburst of genuine patriotism as tonic and inspiriting as the salty breath of the sea; and recalling the talk, once reported by this poet, between the monument on Bunker Hill and the old bridge at Concord. The other, is the address "On Democracy" delivered October 6th, 1884, at Birmingham, England, in his capacity as President of the Midland Institute, by the same James Russell Lowell, then American Minister at the Court of Saint James.

Of this address, it is not too much to say that never were braver or wiser words uttered on behalf of the underlying idea of the American Republic; nor words surer to meet response, the world over, in the heart of every believer in the dignity of human nature, and in the rights of man as man. The stirring lilt of the Scotch poet's "a man's a man for a' that," has no truer ring than vibrates through the sonorous, sententious phrases, that go to the making of the musical prose of this American poet, who, in speaking of "Democracy," termed in England an "American idea," reminds his hearers that, "whether for good or evil, it should not be overlooked that the acorn from which it sprang was ripened on the British oak."

"But democracies have likewise their finer instincts," says Mr. Lowell, pointing, in illustration, to "Lincoln and Emerson." Characterizing each of them, with the fine insight and felicitous phrase given only to poets, he draws the obvious inference that "Institutions which could bear and breed such men had surely some energy for good"!

Listening to his eloquent words, it might well have occurred to his hearers that, in proof of such a statement, the orator need seek no happier illustration than he himself furnished; for, of a certainty, the country and the institutions which could breed such citizens to represent them need no further "excuse for being."

Surely, every true American must feel a manly glow of patriotic pride while reading this masterly presentation,—admirable alike in philosophy and in diction,—of the underlying principles of his country and its government.

Redolent of wit, as of wisdom, these pregnant sentences, spoken by our American Cervantes, strip off from pretentious power the tattered robes of antique authority, long obsolete; laugh to scorn the cowardly forebodings of timid respectabilities; point out to trembling Dives his dangers and his duties; show how Life brings for solution to this age, as to each of its predecessors, its own knotty problems; and then suggest, with tender seriousness, that eighteen centuries ago, the life was lived, the example set, the word spoken, adequate to the peaceful solution of the problems of all the ages; for that which in the phraseology of politics is called "Democracy", is when translated into the terms of ethics recognized as "The Golden Rule."

Lest, to those who fail to read this remarkable address, what has here been said of it may seem exaggerated, the opening sentence of the editorial concerning it, which appeared in the London Times of the 7th of October 1884, is here inserted:

"An address so wise in thought, so finished in style, so genial in temper, so suggestive in topic, so polished in epigram, and so pregnant in aphorism as that delivered yesterday by the American Minister as President of the Midland Institute at Birmingham may well be the despair of hasty commentators like ourselves." * * * The article further says: "But he discoursed on democracy with that assured faith in his own convictions and in the sympathy of his hearers which, even if the genial eloquence and *mitis sapientia* of one of the most finished speakers of his day had been lacking, would have gone far to secure the success of such an address delivered before such an audience."

It is because the argument of the present work rests wholly upon the idea which is at once the foundation and inspiration of American institutions,—namely: that every child has the right not only to an equal chance, but to know that he has that chance,—to paraphrase Mr. Lowell's paraphrase of Napoleon's definition of democracy as the purpose of the French Revolution,—"'*La Carrière ouverte aux talents*,'—a clear pathway for merit of whatever kind," that the discussion of these underlying principles, in their relation to the common schools of the people and to the entire system of public education in the United States, is not only germane, but is absolutely indispensable.

The questions included in the discussion concerning the introduction of industrial art drawing in the common schools, the development of manual training, and the various kinds and degrees of technical education in the industries and the arts to be provided by the public, are so bound up with the life and development of the people, that "nothing which is common to them, is foreign to it," to paraphrase another famous saying.

The United States has now reached a development of population and of material resources, which makes the nation absolutely independent. Justice and courtesy are the only motives that need to be considered in our intercourse with other powers. Surely a people counting nearly sixty million of free citizens can have no occasion for undue sensitiveness to the opinions or acts of other nations, or to the utterances of friendly or hostile critics.

The American people are strong enough and sensible enough to be able to calmly survey the situation, ascertain and reflect upon their own deficiencies, and to consult freely together upon the best and speediest way of practically repairing any existing errors, and of making provision for any needed improvement in methods of education, or of manufactures.

In this belief, there has been, in the preparation of the present work, no hesitation in pointing out possible deficiences, and in suggesting means and methods approved by the experience of other nations.

Conscious of our own power, it becomes us not to be in any way elated by any tardy condescension and courtesies offered to our country.

Let us, in our intercourse with the nations, meet courtesy by courtesy, resolved to be outdone by none in the exercise of the sweet amenities of life; but let us relax no effort in the practical business of developing and improving our own industrial resources.

ART INDUSTRIES IN AMERICA BEFORE THE CENTENNIAL.

English example as shown in the Centennial of great value to Americans — American illustrated magazines and the art of engraving — Tendency in American inventions to lightness and grace — Inartistic furniture shown — Cause of decline of woolen manufactures, once prosperous — Excellent quality of undecorated china shown by Trenton manufacturers — Inferiority of American decorated ware — Glass manufactures long established — Silver *repoussé* ware made in Baltimore as early as 1830 — Goldsmiths' and jewellers' work — American watches — Recent origin of the use in the United States of brick ornament in architecture — Some early instances — The railroad passenger depot in Providence built about 1849 — An artistic brick-factory building built in Cannelton, Ind., as early as 1852 — The late Thomas A. Tefft of Providence, R. I., inaugurates use of brick ornament in the United States — The future possibilities of terra cotta foreseen by Mr. Tefft and his friend the sculptor Paul Akers as early as 1856 — Mr. Tefft as Commissioner of Industrial Art Education for the State of Rhode Island in Europe, in 1859 — His death in Florence in 1860 — Use of brick ornament and terra cotta promoted by the Centennial — Grounds of confidence in the art capacity of Americans.

At the Centennial, amends were incontinently made to America for some of the wrongs that had been inflicted a century before; since it was at Philadelphia, that England, who had formerly prohibited all manufactures in America, gave to observant Americans many a practical lesson and suggestion for the development and improvement of industrial and artistic manufactures.

English methods of industrial art education have already been proved easily adaptable to the situation in America, while the marvellous success of England in the general and rapid development of artistic industries, is full of encouragement to Americans.

It is in connection with literature that in England and America movements towards artistic development begin. To the American illustrated magazines is probably due a wider dissemination of interest in works of art as seen in engravings than to any other influence. The introduction of Mezzotint engraving was directly due to Sartain's Magazine, published in Philadelphia many years ago by Mr. John Sartain, the veteran engraver, who, by the way, was the Art Director of the Centennial. Graham's Magazine and Godey's Lady's Book, also published in Philadelphia, each made steel engravings a popular feature. Harper's Magazine, and the illustrated journals issued by the same house, in New York and the rival New York illustrated papers published by Leslie and others made a great feature of their wood engravings, upon the excellence of which they prided themselves. If one is inclined to question whether there has really been any advance in the art of the wood engraver, or of engraving in general, a comparison between the volumes of Harper's Magazine anywhere in the Forties and in the Eighties, will decide the question effectually and affirmatively. To these magazines and to the excellent steel engravings issued during the few years of its existence by the American Art Union, the American people were chiefly indebted for such popular knowledge and interest in works of art as existed prior to 1860. The book publishers indeed were not indifferent to the attractiveness of engravings and numbers of books finely and profusely illustrated with steel or wood engravings were issued. Still the circulation of such expensive works is necessarily limited.

The art of wood engraving in America prior to the Centennial was well advanced and relatively held its own in comparison with that of other countries.

In chromo-lithography there had been great activity long anterior to the Centennial. The maps and scientific illustrations by Julius Bien & Co. of New York are well known. The firm of L. Prang & Co. of Boston were pioneers in the artistic development of this phase of a popular art. By their publication of the drawing books, etc., comprised in Professor Walter Smith's System of Industrial Art Drawing, they greatly aided in the introduction of the study of drawing in the public schools. By their issue of Christmas and Easter Cards, for the designs of which they have for several years offered prizes of such value as to induce a lively competition among artists, they have done much to develop and popularize a taste for these artistic trifles. The publishing houses of Houghton, Mifflin & Co. and Osgood & Co., both of Boston, have each very extensive departments of Chromo-Lithography. These firms stimulate art production by the employment of artists and engravers in the preparation of their various illustrated books, while, by the circulation of such art works, they aid in the art education of the people; for a correct taste in art can only be developed by seeing good art.

In the publication of Heliotype reproductions of the best engravings of the old masters from the Gray collection, the Messrs. Osgood made a positive contribution to the facilities for art education in this country; while Houghton, Mifflin & Co., in issuing from the Riverside Press such superbly illustrated works as the subscription edition of Longfellow's Poems, with designs by various artists, the volume of Twenty Poems of Longfellow, illustrated by his son, and the Omar Khayyam illustrated by the artist Vedder, have succeeded in adding to the literary and mechanical excellence which has long characterized its issues, the charm of an artistic setting no whit less admirable.

The exquisite illustrations of "Wide Awake" the children's magazine published by D. Lothrop & Co. and those in the many charming books issued by this firm, show that there is no monopoly of artistic knowledge and appreciation by any single publisher in Boston, while in New York, the Children's Monthly, "St. Nicholas," in the excellence and abundance of its illustrations, rivals "The Century" itself. The illustrated Christmas Paper prepared by the Tile Club and published by the Harpers,* and the beautifully illustrated books issued by the Appletons, Harpers, Putnams, Scribners, and others in New York, while in Philadelehia the publications by Lippincott and others, and the choice literature bearing the imprint of Porter & Coates, with the magnificently illustrated subscription art works by Gebbie & Co.,† all witness to the growing demand for excellence and to the popular love for pictorial art.

The illustrations in children's school books published by the various publishers ought of themselves to develop an artistic taste in those who use them. A comparison of any of these really artistic engravings with the coarsely engraved illustrations of the fables in the Webster's spelling book used fifty years ago, will afford a ready measure of the growth of popular art in the United States. Perhaps in nothing is the extent of this development so readily seen as in the contrast between the picture books prepared for children in England and America during the past twenty years and those that preceded them, before the names of Kate Greenaway and Rosina Emmett had become household words.

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* Harper's Christmas Pictures and Papers, Done by the Tile Club and its Literary Friends; Christmas, 1882. Published by Harper & Brothers, Franklin Square, New York.

† This firm issue from time to time sumptuous books containing, in photogravure, copies of the notable new paintings acquired by public and private art galleries in the United States which, taken together, form a most interesting graphic record of the accretions brought to the art treasures of the country from European studios.

The opening of the Centennial found the art of wood engraving prospering in the United States. The subsequent rapid development in the general use of illustrations in all publications, owing doubtless in part to the invention of many new, cheap and satisfactory methods of reproduction, can hardly be fairly attributed to the influence of the Exposition; for which reason I have not carefully defined the situation before and after that event which in the general stimulus it gave to all the arts doubtless benefited that of engraving, but its direct influence upon that art cannot readily be pointed out. The art of steel engraving has suffered by the competition of cheaper and more facile methods of reproduction, especially by the various methods based on photography.

The availability of graphic illustrations as a means of influencing public opinion have long made them a favorite weapon of political partizans, as well as of satirists and moralists like Hogarth and Cruikshank. What the Gillray caricatures, and the Punch cartoons by Tenniel and Leech, have been to England, the incisive drawings of Thomas Nast in Harper's Weekly, for instance during the struggle before the downfall of Tweed, and, latterly, the somewhat coarse, unscrupulous but effective colored cartoons in Puck, are to America. The rapidly growing custom of inserting outline illustrations in the columns of the daily journals gives positive proof of the ever widening uses which the art of drawing may serve.

In the early industrial development of the Americans, quickness of apprehension, readiness and fertility of invention, and a happy knack in the application of means to ends, were soon recognized as characteristic. A tendency to discard useless weight and bulk, to substitute lightness for clumsiness, to seek to accomplish results by novel methods, often led to the adoption of more pleasing forms, which, though not originating in any conscious knowledge of art, were yet suggestive of a latent art capacity which gave promise of great results whenever attention should be directed to its development and culture.

The American wheeled vehicles, buggies and carriages, and the American clippers—the fleet, wooden ships, the fastest sailers of the seas,—were each exquisite in their artistic lines as compared with the heavy, clumsy vehicles and ships, of other nations.

There is another quality of American invention which is philosophic in its breadth—this was shown in the adoption of interchangeable parts. first used, I believe, in the manufacture of fire-arms, later of watches, and capable of numberless adaptations; recently applied by Professor

Baird to the fixtures of the National Museum, where drawers and cases are all made on a fixed proportionate scale so that any drawers will fit in any case. In this, however, it is clear the Japanese anticipated us with their mats all of regular fixed size, so that the size and proportions of rooms, and houses, are expressed by the number of mats requisite to cover the floors.

The universal use of machinery in nearly all manufactures necessarily precluded the existence of any true art; for it will be remembered in our definition of art, that it is the personal quality given by the individual artist which distinguishes a work of art from every other product of man's labor; so that, when the manufacturers sought only to combine the maximum of production with the minimum of cost, it was impossible that the product could be, in any respect, a work of art. The baneful action of this wholesale manufacture in preventing any art development of the industries was everywhere apparent in the surroundings of domestic life, in the furnishings and appointments of the homes of the people, in which, for the most part, a depressing sameness of dreary ugliness prevailed; for the general adoption of machine-made furniture, the monotonous product of the large factories which supplied retail dealers all over the country, effectually superseded local cabinet makers; who, possibly, might else occasionally have developed the possession of some individual instinct for art. The lathe and glue pot sufficed to create all the ornament of the factory-made furniture requisite to meet the demands of a popular taste which had no opportunity of seeing better work.

It resulted that for the twenty or thirty years immediately preceding the Centennial there was little if any artistic furniture made in the United States outside of a few very expensive shops, in two or three of the large cities, in which foreign designers and cabinet makers were employed. One or two of these establishments made some showing of their costly work. An inlaid cabinet shown by Marcotte et Cie., of New York, was greatly admired for the beauty of its design and the perfection of its execution. In all respects it merited the appellation of a work of art and, placed as it was in close proximity to some of the most pretentious of the machine-made furniture, it revealed by contrast, their artistic failings. There was also a little showing of so called "Eastlake" furniture, hand-made and excellent in its honest construction but with a prevailing air of ugliness and discomfort. In the Cincinnati exhibit in the Woman's Pavilion, there was an ambitious showing of wood carving, of varied excellence, applied to furniture; mostly the work of ladies, pupils of Mr. Fry or Mr. Pittman, a few admirable specimens of masters' work accompanied them, the whole was suggestive of what a wealth of domestic art ornament and of interior decoration is made possible by a revival of this charming art. This unique exhibit is referred to in Part II. Spite of these scattered exceptions, encouraging as indications of improvement and of the possibility of artistic furniture, but lost sight of among the multitudinous inartistic articles shown by the wholesale factories, there was, on the whole, little of the attractiveness of art in the showing of American furniture at the Centennial.

Indeed, owing largely to the causes recited above, in nothing was the absence of any true ideas of art more evident, than in these immense and obtrusive exhibitions of costly American furniture, when contrasted with those shown by any of the Europeans, especially by the English.

The lesson was speedily learned and American manufacturers soon set to work with more or less success to imitate art furniture. There has been a grateful change even in the machine-made furniture which never can be very artistic; many of the most obtrusive abominations as seen at the Centennial are now obsolete, and there has been a great deal of exquisite artistic furniture made in the United States, as well as imported during the past nine years.

While at one time, the broad cloths manufactured in the village of Leeds, in Northampton, Massachusetts, were considered the finest made, superior to the best English cloths, this industry had been destroyed by the changes in the tariff, made subsequently to the election of Polk and Dallas,—by reason of which the woollen manufactures of the country—as well as the iron industries—were practically obliterated for years. Owing to this, the Americans were left far behind by European nations in the display of textiles at the Centennial,—the iron interest had the sooner recovered by reason of the demand for rails in the sudden development of railroad building all over the country. Carpets were largely and successfully made, by means of the famous inventions of the Bigelow power looms, etc., so far as the mechanical weaving was concerned, but the art qualities were conspicuous by their absence; so that in design, and in dyes, much was wanting.

The rapid development and extent of popular taste under the guidance of fashion can only be realized by occasional reference to dates.

In view of the present large importations of Oriental rugs and carpets, as well as of the American manufacture of "Smyrna" rugs, it seems difficult to believe that Oriental carpets and hangings and any general taste for Oriental colors, were almost unknown in this country before, and indeed for some time subsequent to, the Centennial. The prevalence of artistic paper-hangings, both imported and of native manufacture is due to a fashion as recent as that which impels to the general adoption of the carpets and tapestries of the Orient.

It was in November, 1870, a year that saw many notable art beginnings in America, that the first importation into Boston of Oriental rugs, and of the artistic wall-papers designed and manufactured by the poet William Morris in England, was made by Mr. N. Willis Bumstead who, returning from a visit to England, sought to introduce the new English ideas in regard to the decoration of interiors. To effect this he fitted up some rooms in the English style and opened them for inspection in April 1871. These rooms so different from the ordinary, attracted much attention but the time was not then ripe for so radical a revolution. Occasionally an artist, who had not forgotten his early days in European studios, selected a pretty rug with which to light up his own studio, but there was no general adoption of the novelties and it was a number of years before the new departure met with favor. One would like to know how those rooms would compare with the customary furnishings of to-day! Judging from the first essays in color the Brooklyn Academy interior by Eidlitz for instance, they may have been almost sombre by contrast.

There had been some making of useful crockery early in the history of the country, and in Trenton, New Jersey, long before the Centennial, there had developed a large and important industry, as also more recently at East Liverpool and elsewhere in Ohio. In the common class of ware,—plain white table crockery, the Americans showed goods equal, and often superior, to similar goods shown by the English, Germans and French; but the American attempts at artistic decoration were such as to make the judicious grieve. There was absolutely no room for rivalry. The Americans had nothing to approach even the lower grades of European ware, English, French and Germans excelled them hopelessly, not to mention the wonderful porcelains shown by China and Japan. However, the excellence of the undecorated ware for common household use, and the exhibition of crude clays, and kaolin, demonstrated that nothing but the application of art was needed to enable the Americans to compete with the world in ceramics.

In Chapter XVII of Mr. Elliott's work on Pottery and Porcelain, referred to later, an interesting historical summary of the origin and progress of the art in America is given. It appears that as early as 1769 porcelain was made in Southwark, now a district of Philadelphia. An account of the discovery of china clays in Virginia, and their exportation to England and use by the potters there as early as 1745, as well as the fear of the English potters lest the colonists should themselves make use of these clays, occurs in a previous chapter.

Mr. Elliott finds nothing to admire in the American ware, shown by some twenty or more firms at the Centennial, which he admits to be useful, strong, clumsy, cheap, and "detestable;" he praises, however, some figures of base-ball players, modelled by Broome, and shown by Ott & Brewer, of Trenton. He closes the chapter treating of American pottery, having recited facts showing the abundance of the raw material suitable for the production of pottery and porcelain, with the following question: "With cheap clays, cheap fuel, cheap foods, may we not begin to supply ourselves, if not some of the rest of the world, with the finest productions of the potter's wheel?"

Manufactures of glass had been long established in America and some very creditable displays were made; it was however in the artistic forms and in the applications of color, that the Americans were deficient. The improvement of art qualities in glass manufactures since the Centennial, is most striking, and may be fairly credited among the results of that exhibition.

Some sixty or more years ago a young silversmith in Baltimore began the making of *repoussé* silver plate. He had the good taste, or the happy fortune, to select and adhere to as models for the forms of his urns, pitchers and bowls, the exquisite shapes of the classic vases of Etruria and Greece. His experience furnishes a striking instance of the successful development in the United States of a purely artistic local industry which, by the beauty and excellence of its products, achieved a great success. There are lessons in this history worth considering; for the appreciation bestowed upon their antique forms prove that novelty of design is not essential in art work, while it is certain that no new combinations can hope to outrival the peerless forms, achieved by the antique artists,—immortal in their beauty.

Here is one instance of the creation and development of artistic production, due to a single American silversmith, long anterior to any European or American modern renaissance of Art.

In New York, the house of Tiffany & Co., in the same business under various firm names for half a century at least, had been long engaged in the manufacture of silverware, the setting of jewelry, etc. At the Centennial this house displayed, in addition to a very beautiful showing of their various goods, precious stones, etc., some striking examples of art work in silver, admirable alike in design and execution, especially in the excellence of the *repoussé* work. Among these, two works were conspicuous. These were the Bryant vase, (now in the possession of the Metropolitan Museum), with its harmony of line and ornament, exquisitely adapted to its purpose, it being a work in which a sister art was called on to express the love and reverence felt by his countrymen for the grand old poet; and the candelabra ordered by Mr. James Gordon Bennett in commemoration of the victory of his yacht *Dauntless* over the *Mohawk*. The name of the vanquished yacht evidently suggested his theme to the artist and the bold and original treatment in the use made of scenes of Indian life, executed in silver with admirable precision of detail, gave proof that the art of working in silver, which centuries ago gave fame to the goldsmiths of Florence, was not wholly without witness in our western world. The name of Mr. J. L. Whitehouse the artist creator of these works should be as familiar to art lovers, as is that of the fortunate firm which can command the skill of such an artist. Many of the smaller articles shown were exquisite in design and novel in material showing Japanese motives and being wrought of vari-colored metals, and in relief. In artistic manipulation of the precious metals, the art of the gold and silversmiths, and of the workers in bronze, this American display was excelled by no European exhibits. In addition there were shown very remarkable specimens of what was to the people of the West, practically a new art, the inlaying of metals, rather,—if I may coin a new word to describe the new object,—the inwelding of metals, incorporated into the body of the material and showing beautiful contrasts or blendings of color, similar to and even more beautiful than the particolored metal work formerly done by the Japanese. When this work was shown in Europe at succeeding World's Fairs, it attracted and received the admiration of the world; and brought high honors to the American workers in the precious metals. Adjoining the exhibition by Tiffany, was that of another firm of New York jewellers—Starr &

Marcus, whose artistic settings of cameos and precious stones was admittedly of unrivalled excellence. An original set of jewelry, designed for a descendant of John and Priscilla Alden,—Longfellow's 'Priscilla,'—of which the center of each article was a piece of "Plymouth Rock" set round with gold and jewels, was shown by this firm and attracted general interest.

In the new inlaid metal work shown by Tiffany, the jewelry settings of Starr & Marcus, and the American watches and watch cases made by the Taunton and the Elgin companies, there were seen such applications of art to industries by Americans, as were equal and in some instances superior to work of a similar class shown by foreign makers. So much at least, had been done by Americans in artistic industries before the Centennial. Doubtless in many localities ingenious mechanics, clock makers, jewellers, goldsmiths, etc., had often executed single works which merited praise as admirable examples of applied art; this is the more probable because the admitted superiority of much of the mechanical work of Americans is evidence of the existence of a general mechanical adaptability and skill, needing only the opportunity to develop into Art.

In view of the present activity in building in this country already referred to in these papers, it is of interest to be able to trace the first beginnings in America of any attempt at architectural ornament in brick. Those familiar with the present fashion of giving to the plainest brick wall some variety of light and shade by a little projecting cornice, the sinking of a panel in a wall, or, if nothing more, by some peculiarity of pattern in setting the bricks, will find it difficult to realize that thirty-five years ago the slightest use of bricks other than as built in a plain wall, without architectural projection or recess of any kind, unless, if some buttress was needed the thickness of wall was occasionally doubled, was unknown in these United States. The idea of ornamenting a brick building by any use of the same material, if only by a narrow cornice, was something unthought of as practicable.

At the present time, seeing the angles, projections, piers, pillars, recesses and cornices, now so commonly built of bricks and used merely as architectural ornaments, not to speak of all the variety of ornamental forms in which bricks are now made,—(used, occasionally, in such bad taste as almost to make one regret their invention,)—or, of the use in buildings of ornamental plaques and tiles of terra cotta, the assertion about to be made will doubtless seem incredible. Nevertheless it is safe to say, that it will not be easy to find any modern examples of ornamental brick work in the United States, in houses built before 1845, while the timid use made of brick ornament, at first, would now seem utterly trivial and weak.

Somewhere about the year 1845 the Hon. Henry Barnard, when State superintendent of the common schools of Rhode Island, found in one of the country district schools a young teacher in whom by reason of his unusual brightness and energy he became greatly interested; so much so, that he encouraged him to attempt to get a college education. Which purpose was finally effected by his entering an architect's office in Providence, where he earned his support by draughting, at the same time acquiring his profession as an architect, while also taking a course of study in Brown University; from which institution he graduated in 1851 with the degree of Bachelor of Philosophy.

His art powers rapidly developed and he was soon entrusted with much of the preparation of the design and detail of buildings. If he did not originate the design, he certainly had charge of most of the details of the plan of the large railroad depot, at Providence, while he was yet a student in the architect's office. This building, as far exceeded in size as in architectural pretensions by other passenger depots since erected in the United States, was at the time the largest building in the country designed for such use. It also possessed some pleasing architectural features, was of good proportion and although of brick, there was some slight use of brick in architectural ornament; a timid experiment with a cornice and I think some buttresses, and possibly an attempt at variety of wall surface.

Whatever may have been the details, the writer well remembers the striking impression received, on first seeing this depot building in Providence, some years before he was made aware of the above facts.

Whether this first actual attempt at ornamental brick architecture was wholly initiated by the young student, which it is the more likely to have been, as, though called such, his employer was probably not a thoroughly trained professional architect,—such comprising an exceedingly limited class of American citizens in those days,—but a builder on a large scale, who would trust ornamental details mostly to his talented young assistant; or, that the attention of the student was first directed by this experiment to a consideration of the possibilities of brick architecturally, is unkown by the present writer; but it is certain that from that time it became a settled purpose with this ambitious young enthusiast to develop in America an architecture of brick.* Opening an office for himself in Providence as soon as his studies were completed, he prosecuted his profession assiduously. He designed and erected buildings in Providence, Newport, Worcester, Mass., Richmond, Va., and elsewhere.

In 1855 the attention of the present writer, while on a voyage down the Ohio and Mississippi, was arrested by the beauty of proportion of a large brick building standing on the bank in full view of the river, at Cannelton, Ind. As the boat made a short stop there, the building was visited and proved to be a cotton factory! In addition to fine proportion there was evident some judicious use of ornament in brick and the building was certainly in delightful contrast with the enormous and ugly piles of brick and mortar, innocent of any attempt at proportion or ornament, which were then the only types of cotton-factory buildings in New England. This was a demonstration that in buildings designed for use ugliness was not necessarily inevitable.

Some three years after, when speaking of this building to a friend in Rome, Italy, who had himself been discoursing at length upon the beauty of the brick architecture at Lombardy, he turned and drew from his portfolio the plan of the factory at Cannelton, designed by himself while a student in Providence! This led to his showing me his drawings for the depot at Providence, of which I have spoken, and of several other examples of his architectural experiments in ornamental brick buildings. As soon as the practice of his profession made it possible, he had made a voyage to England where, just then, the use of color in giving variety to brick architecture was being experimented with, and much lauded; but the knowledge and use of colors by the English was then so crude, that the results were simply hideous, while in the ornamental use of brick, architecturally, they had then done but little.

After returning to America he continued his experiments and his researches into the history of brick architecture and determined to see for himself what was left of the early brick architecture of Lombardy, for he was enthusiastic in his belief in the possibilities of brick and terra cotta; and he held the opinion that if the United States were to have any creditable domestic architecture it must be adapted to the uses of burnt clay.

He believed that the genius of the artist was the only essential factor of the problem; and that a true architect could erect noble and beautiful buildings, even if compelled to use only the then despised brick.

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* A reference to page CLXXII will show that Mr. Tefft is there authoritatively credited with the design of the Providence Central Railroad station.

When I had the good fortune of first making his acquaintance it was in Rome, when he was just returned from his researches in northern Italy. He had given thorough study to the methods and styles of those early Lombard builders and was in a delightful state of enthusiasm, for he had been wholly confirmed in his first instincts as to the possibilities of brick. Often, in talking with his friend the sculptor Paul Akers, whose rare genius was wide embracing, the two would rejoice in prospect of the new opportunities for original work in sculpture, afforded by the possible uses of terra cotta modelled by sculptors and inwrought into the façades of noble buildings. This use of terra cotta, which furnishes so ready an opportunity for the possession of enduring forms of art by wealthy owners when having homes or other buildings designed,—which was foreseen by these young American artists in those talks in Europe in 1856 and 1857,—has, as yet, hardly begun to be appreciated. With its availability for portraiture and for unique original works of art, it would seem to offer to artists and to wealthy connoisseurs alike most attractive opportunities.

The bust of the founder, built into some educational or charitable institution,—the likeness of a loved child, or parent, placed over the entrance of the house around which are to cluster the memories of home,—or the insertion of some original exquisite creation of the artist giving its own immortal charm to an otherwise prosaic building,—these are some of the possibilities of terra cotta when art and fortune conspire to gladden life with beauty.

Our young architect sought the society of the leaders of his profession, on the Continent, and in England, and the writer has the happiness of recalling many a pleasant hour passed with him and the late Owen Jones, the distinguished English architectural innovator to whose genius is to be credited the initiation of some phases of the modern architectural and industrial art movement in England, more especially in the uses of color in buildings and in interiors.

Our young American, somewhat to the regret of his European professional friends, was not exclusively absorbed in a single interest; he had busied himself with studies and researches in political economy, and had prepared a treatise on "a universal currency" read first at Liverpool, before the Social Science Congress, Lord Brougham presiding, which attracted great attention; it was published in the London News, and afterwards translated and published in Belgium, France, and Italy, winning for its author recognition by Mill, and others, in England; by leading publicists in Belgium and France, and by Cavour in Italy; so that there seemed some danger that he might be diverted from his architectural plans for America. He always protested, however, that the introduction of an architecture of brick in America was to be his life work; for this he was always seeking to prepare himself.

In addition to the fact that he is, as related, to be ever associated with the first dawning of a distinctive architectural era in the United States, this lamented genius has another valid claim to mention in these pages. On his last voyage to Europe he bore from the Governor of Rhode Island a commission—as "Commissioner of Industrial Art Education for the State of Rhode Island"; and he was busy in availing himself of the opportunities freely accorded by the authorities in the different countries, in order to prepare the report on industrial art education in Europe which he was to make on his return home. So it appears that as early as 1859 the State of Rhode Island had in Europe a commissioner busily engaged in preparing such a report. Could we have had this report, anticipating by a decade the action taken by Massachusetts, it might easily have happened that the beginning of industrial art education in the United States would have been credited to Providence, instead of Boston.

In this effort by this young Rhode Islander to investigate European industrial art in the interests of America, may be fairly traced the impulse given by Henry Barnard to his ambitious *protégé;* as a reference to Chapter I will show that the need of such educational art training was early appreciated, and urged, by Mr. Barnard.

It was, while pursuing his architectural investigations in Venice, in 1860, that our student was stricken with the deadly fever fatal to so many Americans. It was in vain that he fled to Florence, where, though carefully ministered to by Mr. Powers and his family and by other American friends, he survived but a fortnight; when all that was mortal of Thomas A. Tefft, was, by his sorrowing countrymen, tenderly laid to rest under the peaceful shadows of the cypresses without the walls of Florence, in the little Protestant enclosure sacred in the memory of so many English and American hearts.

It would be difficult to find in Europe, a fitter resting place for this young American architect than is the sunny spot just without the walls of that city whose beauty is the epitome of the art he loved; that city, which was the home of Arnolfo, Giotto, and Orgagna!

He lies almost under the very shadow of Brunelleschi's swelling dome, and where, each day at "the hour of Ave Maria," the heavenly music of bells, lifted high in their aerial belfry in that "Headstone of Beauty" designed by Giotto to o'ertop the city's clustering towers of watch and war, is floated downward with a softened melody; and in sight of that spire which, above the ashes of Angelo and Galileo, points to the skies!

It is eminently fitting, in view of what he had achieved as well as of what he had planned, that the name of Thomas A. Tefft, late of Providence, R. I., who, in his origin, his opportunities, his aspirations, ambitions, energy, industry, and versatility, was an embodiment of the best type of the young Americans of his day, and whose life, by its European successes, reflected honor upon his native land, whose homes have since been made beautiful by his idealization of common clay,—should be recorded in a work dealing with the progress of the Arts in America and with the development of Industrial Art Education.

Although dead at the early age of thirty-two, and although his achievements in this direction were probably known to but few, he had, nevertheless, impressed himself indelibly upon the architecture of his country, by thus practically initiating and introducing the ornamental use of brick.

In addition to the buildings designed by him while an assistant and pupil in another's office, he put up a sufficient number of buildings while himself in the active practice of his profession to vindicate his claim to priority, and to set the example of the use of brick in architectural ornament in so many different places that the innovation was sure not to be overlooked, or forgotten.

As similar claims of priority always challenge attention and seemingly invite denial, it is proper to state, that knowledge of the facts as here recited was obtained by the writer by personal observation and association in America, and Europe; from statements made, and drawings and plans shown by Mr. Tefft; by corroborative testimony received after his decease, from citizens of Providence; and from statements made to me, personally, by the Hon. Henry Barnard.

Mistakes are therefore precluded as to the fact that the late Thomas A. Tefft, B. P., of Providence, R. I., designed and erected brick buildings in the United States, in which brick was used ornamentally, certainly as early as 1850, and probably a year or two earlier; so that there is no room for question that Mr. Tefft was among the first, and probably was himself the very first professional architect in the United States, in recent years at least, to venture upon the use of brick in architectural ornament; as he was the first to enter upon exhaustive investigations in northern Italy, and elsewhere, with the definitely announced purpose of effecting the introduction of a specific brick and terra cotta architecture in America. Others had doubtless visited, examined and enjoyed these works of the early Lombard builders, but Mr. Tefft seems to have been the first architect to apply in the United States the knowledge sought in Italy with that intent, and there can be little question I think, that his early death postponed for some years, the advent of modern ornamental brick and terra cotta architecture in the United States.

His success as a writer on currency was fully recognized in Europe, and is a part of the recorded history of the Social Science movement. It is mentioned here only in evidence of his versatility and of his conceded ability in whatever line of intellectual activity he chose to labor.

He was certainly one of the pioneers among Americans in his European researches as a " State Commissioner of Industrial Art Education."

This use of brick in ornamental architecture, now so universal, began to become somewhat general a short time before the opening of the Centennial, but received a great impulse from that exhibition, especially in the development of the uses of terra cotta; to this, reference will be made later.

It is of interest and value thus to trace the first steps in the development of any phase of civilization, and it is of especial interest to all who desire to see an art era in the United States to know that Americans possess the inherent qualities essential to such development, as is shown in the instances recited of the Baltimore silversmith and the Providence architect.

It was long maintained and very generally believed, that the English people, from whom we are so largely descended, had no art capacity.* This fallacy has been effectually disproved by recent English experience in Industrial Art development; surely, if the individuals whose art careers we have just recounted could arise in America before the opening of the Centennial, or the beginning of any definite art movement, there is every reason for confidence in the innate art capacity of Americans; and for belief that when adequate opportunities for art knowledge and development are offered, we shall repeat in America the triumphant successes of England in the development of art manufactures.

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* In reference to this see Part I. *passim*, and particularly Paper VI. in Appendix A.

THE PRESENT OUTLOOK.

The Centennial Exposition a result of a general movement as well as a cause of subsequent progress—The year 1870 notable in the Art Development of the United States—The three leading Art Museums founded in 1870—The law of 1870 introduced drawing in Massachusetts schools—Professor Walter Smith arrives in 1870—Importance of the Centennial in stimulating the Artistic and Industrial Development of the country—Omission of Centennial authorities to provide for the educational needs of visitors to the Exposition—First effect of the Exposition felt in Literature—Influence of the Exibition made by the South Kensington School of Embroidery—American paintings shown—Engraving in the United States—Influence of Exhibits of Decorative Art—Rise of Decorative Art Industries in the United States after the Centennial—Art Tiles—Terra Cotta and ornamental brick—Slow development of ornamental ceramics—The coming of John Bennett, the celebrated underglaze painter and potter, to America—Ceramic industries in Cincinnati—Recent progress in manufacture of artistic ceramics in Trenton and Baltimore—The Boston Museum of Art introduces Architectural use of Terra Cotta—Recent instances of its use—Terra Cotta enrichment available for small buildings—Stanton Street Baptist Church, New York—Three excellent schools of technical artistic industry—Schools by private firms of R. Hoe & Co. and Tiffany & Co.—Reports by foreign commissioners—Felix Regamy's tribute to the late Charles B. Stetson—Summary.

Although the holding of the Centennial is here taken as the date of the beginning of a new era in the artistic and industrial development of the United States, and although in many ways this coincides with the facts, yet it must not be forgotten that in the choice of all such arbitrary landmarks and dates, convenience, rather than an adherence to exact truth, is oftenest consulted; for civilization does not progress, like the kangaroo, by a series of prodigious jumps.

Long periods of preparation, sometimes it is true of apparent stagnation, but usually of very effective though unobtrusive activity, are wont to precede those era making events which striking the imagination dazzle men's judgment.

In this instance the Centennial, while it has proved to be, as was foreseen, a tremendous force urging forward the artistic and industrial development of a whole people with gigantic strides, was, in itself, a result as well as cause; and had been impossible, in any approach to its actual grandeur and completeness, twenty years before.

It was because the great modern renaissance of the Industrial Arts, which had then been in progress in Europe for nearly forty years, and of which England was ignorant till forced to recognize it in 1851, had, at last, impressed itself upon a certain number of cultured and travelled Americans, that the holding of such an Exposition in the United States became possible. This magnificent Fair was, then, not a solitary, exceptional event,—the marvellous bursting into bloom of the century,—but merely an incident in the general movement of the world.

It is in forgetfulness of the far-reaching power and the universality of such movements, which, in the rapidity of their progress, are marked phenomena of our modern era, that those in charge of some institution, museum, or school, sometimes naively attribute all the evidences of a more general interest in Art shown by their community, to the direct influence of their particular institution; apparently unconscious that their institution is, in itself, the indubitable proof that such art interest was largely pre-existent in the community, else had it not been called into being!

It is, in truth, becoming more and more difficult, in our complex modern civilization, to accurately discriminate between cause and effect; nor in some cases would it be always desirable,—certainly not, if it should result in diminishing the interest and efforts of these complacent workers.

In the United States, the most correct date, if any one year were to be chosen as marking the opening of the era of the new interest in Art, and in art education, would seem to be not 1876, but rather 1870; for it was in 1870 that the Metropolitan Museum of Art, in New York, The Museum of Fine Arts in Boston, and The Corcoran Art Gallery in Washington, were each incorporated; while, in the same year, the legislature of Massachusetts passed the act making Drawing one of the common school studies. It was also in 1870 that Professor Walter Smith was invited to come from England, to introduce the new study in the schools of Boston and throughout the State of Massachusetts. Either one of these events would have made this a memorable year in the annals of the art development of the country; collectively, they mark it as the opening of an era.

It is, however, evident that before all these several undertakings could have gotten themselves successfully launched, there must have been a very warm interest on the part of a few individuals in these several communities, as well as a very general interest in the matter of industrial art education among the citizens of Massachusetts; so that there were in fact several years of active preparation for the Centennial; although these various workers, busy in their own particular localities, could have had no thought that, in their far away stations, they were laying the sure foundations on which the brilliant edifices of the Centennial were, in due time, to rise.

In the preceding paper some of the artistic developments that preceded the Centennial have been recited, and it is now sought to indicate some of the results that can fairly be attributed to the influence of that Exposition.

Since the Centennial itself was but a result and part of a general movement, it is logically certain that, among what might at first seem to be the direct results of the Exhibition, there are some instances, which, like it, are but features of a general movement. A movement doubtless wonderfully accelerated by the influence of the Centennial, but which had already begun and would have progressed, more slowly indeed but still actually; because the movement is part and parcel of the age and must have kept progress with it, even if the sun of the Centennial had never shone to gladden and vivify the artistic aspirations of a people.

It will be found, then, that the beginnings of several of the art movements noted actually preceded by a little the opening of the great Fair; nevertheless, it is probably true in most cases that their development was vastly aided by the results of the displays in Philadelphia.

Of the general quickening of popular interest in all matters relating to Art, directly traceable to the opportunities afforded by the Centennial, and of the great impetus given to the demand for the products of artistic industries, resulting in a noticeable increase in the importation of bric-a-brac, of artistic woven stuffs for hangings and upholstery, of porcelains, potteries, art furniture, etc., sufficient mention has been made in these papers.

In these respects, as well as in the evidences presented of the close relation that exists between the art training and the art manufactures of a people, the Exposition, with its countless and attractive object lessons in illustration of the efficacy of education as specifically directed to obtaining industrial and artistic results, marks a definite era in the progress of the arts in America.

Too much can hardly be said in regard to the stimulating influence of the Centennial upon the industries and arts, nor should the meed of praise due to the public spirited citizens who conceived and executed this great undertaking be in aught restricted. Of a certainty they have deserved well of the Republic.

Perhaps, in no other respect was the executive ability of Americans more strikingly illustrated than by the apparent ease with which the managers of the great railroads of Pennsylvania proved themselves equal to the extraordinary demands made upon them. The problem of transporting, for six months, an increased aggregate of several millions of people, to and fro daily, was solved with such precision, skill, celerity, and safety, as to compel admiration. "Peace hath her victories no less renowned than War."

The managers of the railroads all over the country showed similar readiness, but of course all concentered in the roads that delivered their passengers at the very entrances of the Centennial Grounds. Within the grounds the executive ability of the Exhibition Authorities was no less apparent, while the orderly behavior of the thronging people was equally noticeable. One had then good grounds of pride in the Republic, independently of any consideration of the objects shown.

It is only a few individual instances of artistic industrial development, incited or promoted by the influence of the Centennial, that can be here noted. As to the influence of the Centennial upon the purchasing public, a little observation directed to this particular inquiry will speedily convince any candid inquirer that it has been most potent. Its influence upon the merchants and manufacturers has been both direct and indirect, and promises to continue with ever broadening and accelerating power.

After the opening of the Exhibition, perhaps the earliest apparent effect of the opportunities offered to the eager visitors was seen in the efforts made by individuals to obtain and disseminate information about the Ceramic and other collections.

The failure of the Exhibition authorities to appreciate the value of a comprehensive and classified Educational Exhibit, so placed as to make it possible to see it as a whole and to study details in relation to each other, and their oversight in not providing for the needs of those visitors who sought not merely to be amused, but desired to be instructed, to be fed from these bounteous tables of knowledge set before them, were alike notable.

When these needs were recognized it was too late for adequate remedy. The authorities had parted with their power. The right of issuing and selling official guide books had been sold. The information given in these books, beyond the details of locality and a bare list of articles, was most meagre. There was little other information or explanation. Little was told that one seeing for the first time the articles that composed the exquisite collections of ceramics, for example, needed to know in order to intelligently appreciate them. The importance of a supply of simple elementary hand books relating to the various industrial arts was evident; but the authorized purveyors of information were either wholly unequal to the preparation of such desirable helps, or were indifferent to the demand. They were not, however, equally indifferent to the sale in the building of any works designed to meet this demand.

The educational value of that Exposition might easily have been multiplied many times, by the preparation and sale of simple inexpensive primers giving elementary information about the various arts and industries, and showing in what consisted the excellences of the several qualities of articles produced by a given industry. Such cheap handbooks as the South Kensington authorities in London, and the trustees of the Metropolitan Museum in New York, provide.

A bright Washington lady, attracted by the Ceramics and piqued by the difficulties she met with in seeking information about them, set herself to searching out this knowledge; then, condensing and stating it concisely and clearly, she published an admirable little book containing in brief a history of Ceramic Art, which would have been simply invaluable to many an eager visitor at the Centennial.*

Two years after the Centennial, the late Col. George Ward Nichols, a well known writer who had been one of the judges of the Exhibition, and who subsequently became interested in the making of artistic pottery in Cincinnati, Ohio also published a hand-book on pottery designed to show that "the manufacture of pottery may become one of the great art industries of the United States." The concise statements in regard to the materials that are essential for the production of pottery and porcelain, followed by the proofs of their abundance in this country, with analyses and comparisons between the various clays found in the United States and the famous foreign clays, accompanied by clear descriptions of the processes used in the practical production of pottery, and supplemented with a list of the principal authorities on Ceramics give to this little book, great value. This with the historical hand-book of Mrs. Lockwood, just referred to, would serve as an admirable introduction to either a merely literary or to a practical study of this most interesting art, one of the oldest as it is one of the most useful and beautiful of all the Arts of Industry.

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*Hand Book of Ceramic Art by M. S. Lockwood. G. P. Putnam's Sons New York 1878 pp. 137.

A larger and more important work on the same subjects was also published in the same year by the well-known charming writer and genial gentleman the late Charles Wyllys Elliott. This in a measure covers the ground of both the works just mentioned and yet it is so different from either, is so beautifully illustrated so replete with varied information and so lovingly written that it admirably supplements these works. The three together give the substance of many costly publications. The list, given in the preface, of private collections of porcelains in America; the history of early American potteries, given in Chapter XVII; and the comprehensive and well-chosen bibliography, in the Appendix, add special value to this volume.

The clear arrangement of topics, the special references to the exhibits from all countries at the Centennial, the definite detailed information about the different factories with their marks and monograms, and the convenient arrangement of the illustrations in relation to the text, the whole supplemented by a good index, show that the author faithfully performed his part; while the publishers, in the excellence of the engravings, and in press-work, paper and binding made a charmingly artistic volume, which may be reckoned as a most delightful outcome of the Centennial.*

Colonel Nichols urging in his smaller volume the production of pottery in America shows, by instances in other lands, that the location of successful works for the production of pottery and porcelain, depends upon the facilities for obtaining with the least difficulty and expense the requisite clays, etc., and the fuel; which latter makes a large part of the cost of production.

These conditions he finds to exist in this country at Trenton, New Jersey; East Liverpool, Ohio; Baltimore, Maryland, and preëminently in the author's judgment at Cincinnati, Ohio.

Under the title, "Architectural Decoration" the uses of Tiles and Terra Cotta are considered. Before quoting from Colonel Nichols I quote a sentence or two from the first of a series of papers on "Ceramics at Philadelphia," which appeared in the American Architect and Building News in 1876.

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* "Pottery and Porcelain, from early times down to the Philadelphia Exhibition of 1876, by Charles Wyllys Elliott, with one hundred and sixty-five illustrations, and the more important marks and monograms. New York: D. Appleton and Company, 549 and 551 Broadway. 1878. pp. 358."

"In 1867 the use of terra-cotta in architecture was one of the lost arts in Great Britain. It is now rapidly reviving. * * * In 1867 printed and painted tiles were little known in England: now they receive an amount of care, skill, and appreciation that shows how vastly the taste of the middle classes has, in a few years, been improved. Doulton ware dates only from 1870, and the Lambeth faience from 1873." These dates are also of interest in connection with the previous account of the early use in this country of brick ornament by Mr. Tefft and his conception of the desirableness of a general use in architecture of terra-cotta. Now to return to Mr. Nichols who writes in 1878 "We have in the United States begun to use tiles, both glazed and unglazed, associated with brick and stone in buildings. But these tiles are mainly imported from England and are very expensive, so that they are sparingly applied, and looked upon as a luxury. There is every reason why the production of these tiles, and other manufactures of terra-cotta, should be carried on to an unlimited extent in this country. We have the necessary clays. They are to be found East and West. Skilled labor will come with the demand for it. Perhaps no other art industry has received so great an impetus from the splendid Exposition of the works of all nations at Philadelphia, as that of pottery. Tiles and other forms of terra-cotta can be manufactured at low cost, and will be extensively used as building material. The use of terra-cotta is to be commended because of its indestructibility from extreme heat or cold, and from the chemical agencies which attack other materials. In its condition as clay it is easily modelled and moulded to any shape, and would serve a graceful purpose for cornices, caps for windows, and doors, string courses and so on. But its adaptability to effects of color commands our special attention. In this respect it offers limitless opportunities for artistic expression. Color once fixed by heat in the plastic clay, endures forever. Color is the grand objective of all the arts and industries."

In urging the use of terra-cotta in America, Colonel Nichols further says: "He will achieve renown who has the courage and good judgment first to show the people of this country how burnt earth may be adapted to the varied conditions of our climate, and he will become a benefactor who demonstrates its practical character and its infinite artistic capabilities." After a brief resumé of the use of terra-cotta, by the people of ancient times, and by modern Oriental and European nations, he thus describes the new beginning of its use in England:

"While we call attention to the evidences of early culture in the production of terra-cotta, we have magnificent illustration of its employment in exterior decoration in England. The same rich profusion of terra-cotta, decorated with brilliant glowing colors, which was displayed by the English at the Centennial Exhibition, may be seen as architectural adornment on public buildings in London and other cities of Great Britain. The façade of the South Kensington Museum is a striking evidence of the effective use of terra-cotta. It is entirely constructed of burnt earth which has been modelled into artistic shapes and covered with emblematic adornments. The main part of the building is red brick, the decorative columns, capitals and other members are a fine cream color."* So it is evident that the idea of possible adoption of terra-cotta in American architecture was being made familiar to the public mind long before its actual advent.

The daily journals, the magazines, and the few existing art publications made laudable efforts to disseminate information, and they created a wide-spread interest, but still it was impossible in these ways to meet the pressing local demand for definite knowledge. As this demand was entirely due to the holding of the Exposition, it was the more incumbent upon the authorities to have made provision for its supply; it is, however, only just to state that in the multitudinous demands upon them, such an omission may be easily understood.

There was no possible way for immediately meeting the want; no such books having ever before been sought, consequently none were then to be found, other than the costly imported art volumes prepared for European collectors and connoisseurs. The books and other publications eventually called forth by this sudden demand for some authentic information about artistic industries, have been legion. In the present time, when knowledge upon these subjects is somewhat general, it would be difficult for one who had not observed it at the time, to realize the almost universal ignorance of the public in regard to all matters relating to the artistic industries, which prevailed throughout the United States just previous to the opening of the Centennial Exposition. The simplest technical terms of the various arts were to the great majority an unknown tongue. The names of the various manufacturers of Ceramics conveyed no meaning, while the differences between pottery and porcelain, over glaze and under glaze, hard paste and soft paste, were undistinguished.

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* Pottery: How it is made, its shape and decoration, practical instructions for painting on porcelain and all kinds of pottery with vitrifiable and common oil colors, with a full bibliography of standard works upon the ceramic art, and 42 illustrations, by George Ward Nichols, author of "Art Education Applied to Industry." G. P. Putnam's Sons, New York, 1878, pp. 142.

The authors and publishers made haste to meet this new demand, and the magazines began to publish articles relating to the arts, which have since formed a regular feature of these publications. The late Col. George Ward Nichols, of whose subsequent work on Pottery mention has just been made, speedily published an illustrated volume upon Industrial Art, followed by other popular writers.* Soon, persons who had been stimulated to engage in artistic work began to publish articles and hand books concerning their several specialties. Miss McLaughlin's practical hand books on the painting of pottery, etc., were among the earliest; her independent experiments in glazing were of great interest.

The American Architect and Building News, of Boston, established January, 1876, as the organ of the architects, published a series of most valuable articles upon the Exposition.

The publication of the American Art Review by Estes & Lauriat, of Boston, begun in 1880 under the able editorship of Mr. S. R. Koehler, was hailed as a notable event in the art development of the country, for it was an art journal of the best class; and, gave a decided impetus to the development of the fascinating art of etching. Its demise, after a career of continued and ever-growing excellence, was deeply regretted by those who desired the higher development of art and was an unpleasant reminder that, as yet, the art-loving public in the United States is not sufficiently numerous to support a single art journal of the highest class.

The Art Amateur, of New York, a most admirable family journal founded by Montagu Marks, Esq., editor and proprietor and devoted especially, though by no means exclusively, to the Decorative Arts, may be considered as the child and heir of the Centennial, for before that event there was no public to which it could appeal. The special reports issued under the direction of the Centennial authorities added their quota to the opportunities for general art culture. It may be said then, that one of the most direct and immediate effects of the Centennial was seen in literature, in which after the opening of the Exposition the art element rapidly increased.

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*Art Education Applied to Industry by George Ward Nichols author of "The Story of the Great March," with illustrations. Harper & Brothers, New York. 1877. pp. 211.

A marked effect resulted directly from the display made of Art needlework and embroidery by the South Kensington School of Art Embroidery under Royal Patronage. To this may be traced much of the interest taken by ladies in the various cities which resulted in the opening of so many women's art associations — the Societies of Decorative Art — which have proved most valuable art educational instrumentalities.

The development of art works in Embroidery — for the beautiful works by Mrs. Holmes of Boston and by Miss Wheeler in New York, and the designs wrought by "The Associated Artists" of New York are justly entitled to this appellation — was wholly due to the Centennial. Artistic embroidery in the United States is a direct outcome and result of the display made by the South Kensington School of Art Needlework at Philadelphia in 1876.

The evident need by the public of simple elementary information about the various articles comprised in permanent public art museums or in art loan collections, was so apparent during the Centennial that it presented a problem for solution to every thoughtful looker-on. Fortunately, however, the best possible solution was also shown in one part of the great art display, namely, in the gallery of English paintings in the Art Annex: Upon a gilt card affixed to the frame, or upon the frame itself, the name of the painting with the name and time of the artist, was distinctly given in clear black letters, without in any way interfering with the harmony of painting or frame, as sometimes happens when a white or other colored card is used. This example has produced excellent results.

In the public art galleries and in art loan collections held since 1876 ample provision has been generally made to insure the intelligent comprehension, by the visitors, of the objects shown. The educational uses and value of such collections are becoming better appreciated. This also may be fairly attributed to the lessons of the Centennial. In miscellaneous art loan collections, the wants of the casual visitor are fully met by having the articles properly classified and with each one a card giving the essential facts about it, while printed catalogues with fuller information are also on sale. Not only is the educational value of such exhibitions greatly increased, but the interest of visitors is quickened when such information is readily accessible. As Mr. Louis Tiffany of New York demonstrated at a famous loan exhibition held some years since in the National Academy of Design, this preliminary attention to educational uses need not seriously interfere with the artistic arrangement of the articles. The lessons, in harmony of colors, in tasteful groupings of forms, for which the opportunity is thus afforded, are by no means the least important uses of such exhibitions.

As in the accounts of the several Art Academies, to appear in a succeeding volume, the history of the early development of the Fine Arts in the United States is to some extent given, it will now be but briefly referred to. The names of Copley and West, whose art careers in England in the last century are a part of the history of the time, are familiar to all. Trumbull and Allston, Stuart, Sully, Leslie, Vanderlyn, the Peales, Cole, Durand, Harding, Elliott, Page, Gray, Huntington, Leutze, Church, William Hunt, Eastman Johnson, the Harts, Inness, S. R. Gifford, William Oliver Stone, Baker, Bierstadt, Brown, Richards, Smillie, La Farge, Whittredge, Tilton, James and William Beard, Bellows, Champney, George Fuller, DeHaas, Swain Gifford, Tiffany, A. J. Way, Witt, Quartley, Boughton, Whistler, Porter, are the names of American painters, some living in Europe, taken almost at haphazard and without any attempt at close classification; while the names of Clevenger, Greenough, Powers, Crawford, Hart, Ball, Akers, Story, Rogers, Bartholomew, Palmer, Ward, Launt Thompson, MacDonald, Meade, Simmons, French, and St. Gaudens, are the names of sculptors similarly taken.

The history of art is mostly made up of biography, is, of necessity, the history of artists; though with our love of generalization we personify an abstract ideal of Art. All whose names are here given were well known in this country as artists before the Centennial Exposition, and many of them had also an honorable European reputation. These lists of early and later artists could readily be greatly enlarged, for there was no intention of giving a complete or exclusive list of names. Many doubtless with equal or superior claim to mention are omitted, the only object in giving any names being to show that a people who, with so little general interest in art had produced so many creditable artists, must be fairly gifted with the capacity for art.

The exhibition of American paintings made at the Centennial was certainly creditable, and of great historical interest. The works of the earlier and later painters and of the founders of the American school of

Landscape Art, were there seen in close juxtaposition with those of some of the recent students of the modern masters of Paris. There was also a showing of water-color paintings, the excellence of which was a surprise to all who had not seen the more recent work.

In portraiture, in landscape, and in some few examples of genre, there was no occasion for any American to feel ashamed of his country's artists. In figure painting and in historical subjects there was little shown. Vanderlyn's "Ariadne" and Gray's "Judgment of Paris" however stood in no need of apologies, any more than did Eastman Johnson's genre and character pictures. Characteristic portraits by Elliott, Page, Stone and Porter, were admirable, while in Church's Niagara, was a picture which had received the plaudits of the art world of Europe. But it is far from my intent to here review the American exhibition of paintings. One small historical picture studied with much interest, " Spalatro's Bloody Hand," by Washington Allston, was here seen for the last time, having been destroyed a few weeks after the close of the Exposition by the burning of the owner's residence. Although a large increase in the number of art students and a more general interest in art was observed contemporaneously with and subsequently to the holding of the Exposition, yet probably less is to be attributed to its direct influence in the development of High Art than is traceable in most other departments. Owing partly to the fact that, with notable exceptions, the foreign exhibitions of paintings were inferior to the loan exhibitions of foreign works of art occasionally made by American owners; and also for the reason that there had been in the United States for nearly a century, considerable development in the Fine Arts; the Centennial Exhibition of Paintings and Statues, though always thronged with eager visitors, made relatively less impression upon the World of Art than did the display of the products of the various artistic industries, some of which were before unknown in the United States, and most of which were absolutely a revelation to the great majority of visitors. The great contemporaneous Art Loan Exhibition in New York, held at the Metropolitan Museum and the National Academy, contained many more master-pieces by the artists of Europe, than were shown at the Centennial.

Reference has been made in the previous paper to the art of engraving in the United States, and to the influence of the illustrated magazines in developing and in popularizing a love for this phase of art. A revolution in and a notable development of this art was initiated by the publishers of "Scribner's" now the "Century" Magazine, who are to be credited with having caused to be taken a positive step forward in the art of engraving. Harper's Magazine was not slow in adopting the new styles, and artists and engravers entered on an active rivalry. The innovation was not unreservedly approved at first, partly, perhaps, because thought to be too much tinctured with the sensational treatment of the impressionists, and was most vigorously combatted by Linton, a recognized master of the art of engraving; but the movement has steadily developed, and the excellence of the American engraver is readily admitted in Europe, while in England both Harper's and The Century publish now regular editions; this invasion of England by the American publishers being largely due to the illustrated features of those beautiful publications—to their artist allies.

To this demand for book illustrations may be credited the rise of what may, perhaps, be called a school of artists in Black and White, preëminent among whom are Mr. Vedder and Mr. Edwin A. Abbey. A school which includes also a number of charming lady artists and if the etchers are included, *their* name is legion. This school is, however, not exclusive but is composed, for the most part, of artists, who work in oils, water-colors, crayons, or acids as their humor or the fashion of the hour impels. The somewhat recent direction of their powers so largely to book illustration is due to the business sagacity of the publishers.

The forming of the Societies of Decorative Art has already been referred to. As an outcome of the parent association in New York, in which the educational features were speedily and variously initiated and fostered, there began a movement in household decoration, manifesting itself in the more prevalent use of hangings, embroideries, etc.

The example set by the English in the artistic use of tiles, colored glass, draperies, etc., for interior decoration, was speedily followed.

"The Associated Artists," a private undertaking, sprung directly from the Society of Decorative Art, established themselves in the city of New York in response to this new demand; the various methods and forms of their subsequent development are most interesting in themselves, and furnish a conclusive demonstration of how an awakened interest in artistic subjects may directly tend to the development of new industries and to the prosperity of a country. In an endeavor to meet the new demands for artistic uses new materials have been required, and in silk, in woolen, and in cotton, new and beautiful stuffs have been designed by, and manufactured for, this establishment. This is an outcome entirely independent of the art embroidery and needlework which it was the first purpose of the new firm to provide.

Attention is called to the productions of this firm as furnishing a striking illustration of the practical results in developing artistic industries and manufactures, which follow definite training in Art. A reciprocal influence is also to be noted. The very results as shown in the new and beautiful materials made by this firm and adapted for artistic embroideries, etc., have aroused a more general interest in all that relates to decorative arts with an eager desire for information. To meet this new demand various writers, teachers and lecturers have come forward, some treating of the history of art, others of elementary industrial drawing; few, however, have evinced sufficient grasp of the subject to undertake to show that certain fundamental principles underlie all the manifestations of beauty, yet this must be so, unless beauty in nature and in art is an exception to all other of the phenomena of nature.

The reasons why one object is agreeable and another repulsive must be innate in man's nature, and based on laws as immutable and as recognizable as any of the laws of nature. Yet, though all the discoveries of science are based upon the assumed uniformity of nature, and all the operations of mental action proceed upon the recognition of the invariable sequence of cause and effect, mankind have allowed themselves, on this one subject, to ignore the teachings of experience and in obedience to two or three musty proverbs, such, for instance, as "De gustibus non est disputandum," to be persuaded that there are no Laws of Beauty and that, therefore, there can be no standard of correct taste set up; that throughout the whole realm of Art the only guide is fashion, or individual caprice.

The conviction that there could be no such absurd contradiction in nature has led Mr. Ruskin, and other thoughtful investigators to the endeavor to ascertain these underlying truths of art.

A great genius in Paris, nearly a century ago, set himself to serious study in search of the laws which underlie human expression. Years of patient research were rewarded by important discoveries. The story of his life and his pursuit of truth, is as interesting as is always that of the great discoverers in any of the realms of nature. These discoveries were naturally first availed of in the Dramatic Art, and, perhaps, as naturally have therefore been thought to be thus limited in their application; soon, however, the painters of historical or dramatic incidents found their uses, it is at last now beginning to be recognized that, since all art is but expression, the laws that underlie expression must also underlie all art.

Here then there begins to be a practical outcome. If Art is based on immutable laws like mathematics, the principles of correct taste can be demonstrated and therefore can be taught and this the followers of Delsarte claim to do. It can be shown why one wall-paper is displeasing and another pleasing, just as an addition of figures can be shown to be correct or incorrect. The relations between forms and colors or between various articles can be so clearly explained, that the principles in accordance with which they must be combined in order to produce certain definite effects, can be taught. The laws of harmony which surely underlie all Art can be ascertained. Their importance and their uniform action, can be shown. In accordance with these laws the coloring and furnishing of a dwelling, or a room, can be intelligently designed to produce certain effects, as confidently as an architect now draws his plans. The laws applicable to dress, to all decoration, the means of making the person and the home attractive, can be taught, just as the correct use of language is now taught. What Walter Smith so well began in Boston, can now, it is claimed, be supplemented and developed by the followers of Delsarte, the great discoverer of whom we have just spoken.

In New York, the artists Mr. and Mrs. Edmund Russell, are busily promulgating the principles of Delsarte in a series of lectures largely illustrated by the beautiful fabrics and artistic handiwork of "The Associated Artists," and by examples of wall papers, ceramics, and other products of the industrial arts, showing, in each instance, why this is pleasing and that displeasing, how one combination is in harmony while another produces violent discord. So far as possible these illustrations are by means of American works, the rapid increase of art qualities in which is declared by these experts to be most notable. In attending these lectures a new sense of the "common bond which unites the arts," long since remarked by Cicero, is impressed on the hearer.

The simplicity and beauty of the discoveries made by Delsarte, and the facility of the application of these principles to all the varied, seemingly contradictory, phases of art, make their exposition by one who embodies and illustrates the principles set forth, most attractive.

That these principles should be taught in all Normal Schools, should be familiar to all public school teachers, and should be an indispensable part of all education, will surely need no argument to those who believe in the introduction of elementary industrial art drawing in all public schools.

That an element of education which will directly teach the child how to make a home attractive, is an important element, needs no argument.

The laws that underlie all language, whether the language of speech or of gesture, are surely of importance in any schemes of literary education, while their importance in the language of art is assumed.

Those who recall the eloquence, enthusiasm and mastery of his subject, shown by Walter Smith, when urging before an audience the claims upon educators, of elementary instruction in industrial art drawing, will gladly recognize similar qualities, while listening to the musical periods and watching the graceful gestures of the disciple of Delsarte. These two enthusiasts have this in common that they take captive their audience and compel conviction.

In this application, to the Industrial and Decorative, as well as to the Fine Arts, of the principles discovered by Delsarte, a positive addition is made to educational facilities for Art development. It is easy to see that by a general dissemination of the practical knowledge of these laws of related harmonies, with, at the same time, the teaching of Industrial Art Drawing in all public schools, a wonderful impetus would be given to the art knowledge, and consequently to the artistic productions of the community. By making use of this new educational influence such a widespread diffusion of correct art knowledge can be secured, as has been, heretofore, unattainable. To develop in the community at large a knowledge of the principles on which a correct taste in art matters is based, would be to lay broad and deep the foundations of artistic development.

This knowledge is applicable to every stage of art development and is as readily adapted to practical uses as it is satisfactory in theory. The claim that the laws of related harmonies can be definitely taught and readily comprehended, and that the reason why one thing is artistically beautiful and another is lacking in all these qualities can be made clear to the mind of a child, is, in effect, to remove art and artistic manufactures from the realm of Empiricism to that of Certainty. If the public can be thus trained to become intelligent art critics, the rapid improvement of American art manufactures is secured. This claim of the Delsartians invites investigation.

Previous to the holding of the Centennial Exposition a movement looking to a revival in America of the mediæval custom of employing great artists to adorn the interiors of buildings began.

Mr. William Hunt of Boston was called on to paint the great pictures on the walls of the legislative chambers of the new State Capitol at Albany, N. Y.; and to Mr. La Farge, was entrusted the interior decoration of Trinity Church Boston, the finest opportunity for high art that had ever offered to a native artist in America; indeed, these two instances were, I believe, the first in which American artists had been called on for such work. An Italian, Signor Brumidi, had been for years busied on the walls and ceilings of the Capitol in Washington, but the idea of giving to churches and civic buildings any such glory of art as was once so common in Italy and France, seems never to have been thought of, elsewhere, in America. Subsequently, Mr. La Farge painted in a similar manner the interior of the church of Saint Thomas in New York.

In his scheme for decorating the majestic interior of Trinity the great windows were of necessity an important feature. The painter drew the designs for these windows, and had the glass made under his immediate supervision. Some of these windows of Trinity are of exceeding beauty. The softness, harmony and brilliance of the old European cathedral glass and the contrast in these qualities with modern work, is familiar to all who have ever seen the few examples of the best old work which revolutions and reformations may have spared. The abuses of colored glass in the hands of vulgar ostentation are obvious, but Mr. La Farge and Mr. Tiffany have shown that modern glass readily lends itself to artistic uses.

The now prevalent and somewhat indiscriminate use of colored glass in domestic architecture is the undoubted result of the Centennial.

In the material for architectural decorations shown at Philadelphia, colored glass was an important feature. Two well-known American artists, La Farge and Tiffany, each independently, associated themselves with others, to provide such glass; and beautiful artistic glass has since been made in this country and very generally introduced in public and in private buildings.

A peculiar kind of semi-transparent glass combined with an imitation of half-precious stones has also been made, which lends itself readily to the production of rich effects, conducing to a certain splendor and magnificence when discreetly used.

Besides these new manufactures of colored glass for architectural uses, there have been various productions of novelties in exquisite colored glass for the table, and in purely ornamental forms, originating here and keeping the home market, it is claimed, by the rapidity with which they succeed each other, thus preventing the possibility of importing cheap foreign imitations. The manufacture of glass has been long carried on in this country in blown, in pressed, and in cut glass. It is asserted that a recent discovery in Missouri of sand of remarkable quality, gives promise of the production here of plate glass superior to any now made in the world. The application of the sand blast, an American invention, to the engraving of glass, greatly facilitating and cheapening the process, has added to its various uses. While, as stated, plain and cut glass have long been made here, the manufacture of this new colored glass ware began long after the Centennial, and much of it is very attractive in form and good in color, so that it deserves to be ranked as an artistic industry.

Yet, if any readers care to realize the art quality of the work made by free wanderers whose art seems instinctive, and whose creations are as carelessly and prodigally beautiful as those of wild Nature herself, let them turn to the poet's description of the gipsy glassblowers in Bohemia, in which this quality is suggested, in words whose music and whose subtile art rival in exquisite harmony and delicacy the quaintly graceful forms and marvellous nuances of color of these airy creations which have kept the glow of the sunlight, the fleeting colors of the cloud, caught while the vagrant winds whispered their secrets to the wild-eyed wanderers, as they blew their vitreous, translucent bubbles, shaping them at their changing will, but never failing to impart to each, something of the grace, beauty and freedom of unspoiled, untrammelled Nature.

"Glasses they'll blow you, crystal clear,
Where just a faint cloud of rose shall appear,
As if in pure water you dropped and let die
A bruised black-blooded mulberry;
And that other sort, their crowning pride,
With long white threads distinct inside,
Like the lake-flower's fibrous roots which dangle
Loose such a length and never tangle,
Where the bold sword-lily cuts the clear waters,
And the cup-lily couches with all the white daughters."*

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* From "The Flight of the Duchess," by Robert Browning.

Such a vital expression, only possible to great poets, of the art qualities of these beautiful, fragile yet enduring creations, for of all man's works glass is among the most lasting, may, perchance, enable us to realize how easily this elusive spirit of Art evades capture, and by what impalpable yet impassable boundaries the sacred realm of Art is guarded from profane intrusion.

Afterwards it may be easier to comprehend that many products of American industry are wanting in that indefinable something which, when present, imparts the preciousness of Art!

In nothing is the artistic revolution consequent upon the influence of the Centennial more apparent than in wall coverings.

The importation of splendid paperings from Europe and from Japan assumes large proportions, nor have American manufacturers been slow to infuse an artistic element into their productions, with most gratifying results.

The charge that, by a combination of manufacturers, all papers of the new designs of each year are destroyed at the end of the year, which has been repeatedly published and any denial of which if such has been made I have failed to see, would imply little faith in the Art sense of the community and a desire to create an artificial necessity—which to say the least is more canny than artistic, and is very likely to prove only a penny-wise policy. The new materials for wall decorations and the increase of frescoing, may well suggest to the wall-paper trade the desirableness of a liberal treatment of the purchasing public.

The uses to which the exquisite art tiles of Minton, and other English and French manufacturers, could be applied, were effectively displayed at Philadelphia; and they have since come very generally into use. The art tiles manufactured by Low, in Boston, were made before the Centennial and indisputably merit their title; these beautiful works, which lend themselves most effectively to decorative uses, are something in the way of industrial art of which Americans may well be proud.

Mention has already been made of the inferiority of the American decorated porcelain and china, shown at the Centennial, as compared with the exhibits of European manufactures there shown. In 1883, through the courtesy of Mr. Davis Collamore, of New York, I had the opportunity of a thorough inspection of the large and costly collections of Ceramics contained in his immense establishment. After having seen all the beautiful articles there collected from all the world, I found that there were but two kinds of American work included in all that number — these two were several of the admirable Faience vases made by John Bennett, the Americanized English artist and potter; and the delicate Beleek ware made by Messrs. Ott & Brewer of Trenton. This did not seem to be a very promising outlook for the development of Art Ceramics in America, to have nothing more to show, seven years subsequent to the Exposition.

A recent letter from Mr. Collamore, in reply to an inquiry in regard to the present development of the ceramic industry in the United States, shows a very decided change and improvement, and enumerates a number of factories in the country whose artistic products merit praise and secure purchasers.

The Beleek ware and the Royal Worcester ware made by Ott & Brewer, the work made by the Greenwood Company also at Trenton; — the Art Pottery made by Haynes & Co., Baltimore, a visit to whose works is full of interest; the artistic forms and charming combinations of colors, effected by the use of variously colored clays, of the vases of the Matt Morgan pottery in Cincinnati, and the beautiful Limoges and other artistic ware, made by the Rookwood pottery, also in Cincinnati; are among the artistic works in Ceramic Ware which are both a promise and a pledge of the future development of this charming art in America, and may be directly traced to the influence of the Centennial Exposition.

A few months after the close of the Exposition a few lines in the New York papers modestly stated that there would be an exhibition of some under glaze painted pottery by Mr. John Bennett the next day, at the store of Davis Collamore. The name of the artist conveyed no information, and it was with little expectation that one visitor, at least, entered the store; to be astonished and delighted by the sight of some forty pieces of exquisite ware, perfect in glaze, good in form and absolutely charming in color. This Faience ware was of the same kind as that shown by the Doultons in Philadelphia, and named by them "Lambeth Faience;" but in the art quality of the decoration was greatly superior to the examples shown at Philadelphia.

It was soon ascertained that the maker of these beautiful works was, himself, the artist who had created the Lambeth Faience shown by the Doultons, only the work shown by them at the Centennial had all been done by their employees,—former pupils of the Government Art School in Lambeth, in charge of Mr. Sparkes. There was one exception, a single mammoth vase decorated with aquatic plants, now in the National

Museum, Washington. This was the work of Mr. Bennett. The striking difference between scholar's work and master's work was very evident on seeing that exhibition at Mr. Collamore's, in which every piece was the work of the master, and had the true artistic touch, the boldness, precision, and breadth of handling of one sure of his purpose.

Mr. Bennett had decided to make his home in America and at once opened a kiln and a studio in New York. The Society of Decorative Art, ever on the alert, soon secured his services as a teacher of the art of under-glaze painting. This was an outcome of the Centennial, and it was pleasant to know that no where were there more beautiful examples of this Art Pottery than, after the date of Mr. Bennett's advent, were made in the United States. This work was at once appreciated and on sale at Tiffany's and both the Collamores, and America could boast of a new art industry. Eventually it is to be hoped some of Mr. Bennett's pupils may be successful in similar work. All countries have thus profited by the coming to them of artists from other countries; in that way civilization spreads. By giving us so great a teacher of industrial art as Walter Smith and so great a worker in art as John Bennett, England has done much in recompense for her early discouragement of American arts and industries, since Walter Smith has in Massachusetts successfully demonstrated that the elements of industrial art drawing can be effectually taught in the public schools of America, and John Bennett has made in America such charming artistic pottery as not only delighted American purchasers but, when exported to England, met with as ready sale in London as in New York; thus showing that when good art-works are produced in America other nations will be glad to buy them. It appears then that, through the instrumentality of these two Englishmen, the solution of the problems of securing popular art instruction and of the production of acceptable works of industrial art in America, has been effected. It is said, I know not with what truth, that emigrants from the Beleek works in Ireland, and from the Royal Worcester Factory in England, have enabled the Trenton manufacturers and Haynes & Co., of Baltimore, to produce the beautiful works—replicas of those made in Great Britain—to which allusion has been made; the work, however effected, is of exceeding beauty.

The well known successful experiments of Miss McLaughlin, in Cincinnati, in under-glaze painting of pottery, were accomplished before the Centennial. The impulse which led to this unusual direction of feminine activities was undoubtedly developed by the interest shown in Cincinnati in art education,—other results of which were seen in the wood carving, etc., shown in the Women's Pavilion at the Centennial,—and in the efforts of public spirited citizens to develop and promote Art and art industries in that city. This instance illustrates the practical value that may result to a community by means of a general culture in art matters. The interesting fact that this American girl made for herself an independent discovery of the art of glazing pottery, has another side to it;—the reverse of the medal! Had there been at that time in Cincinnati, a reasonable amount of knowledge about the art industries she might have kept this creative power for art work proper; instead of expending it in re-doing this needless work. This incident illustrates how general education in elementary art may prove, for a community an economy of power. The establishment in Cincinnati of the Rookwood Pottery by Mrs. George Ward Nichols is a definite contribution to the interest of art industry in the United States. For such an establishment is like an experimental laboratory in which much can be done which would never be attempted in a mere business factory, but which, if successful, may serve to directly aid in the development of the industry; while the successful experiments redound to the fame and the fortune of the experimenters. It is of good omen for the development of the art industries of a country when liberal minded and affluent citizens are found willing to devote their talents, time, and resources to such enterprises.

In other countries monarchs have thought the development of art industries not unworthy their personal attention and patronage. The efforts of Augustus II, Elector of Saxony, and the discovery by Böttcher that the hair powder was kaolin, of which the outcome was the establishment of the royal factory at Meissen where was made the famous "Dresden China," are familiar anecdotes; while the establishment of the royal tapestry work of the Gobelins and the royal porcelain factory of Sèvres, are as well known as any events of French history. In the monarchies a man who creates a new industry or succeeds in doing any great work of value and importance to the public, may look for recognition in the award of honors and rank by the Ruler and the government of his country; and this is, without doubt, a high incentive to individual effort. In the United States it is far otherwise. Here no government of State or Nation offers any direct aid to industry or art: everything is left to individuals. Hence in most cases the development of a new art or industry depends solely upon its promise of speedy pecuniary returns. This is sufficient to account for the slowness of development in the manufacture of these costly Art Ceramics. When public spirited liberal and enterprising citizens are found, who are willing to do as Mrs. Nichols and her associates in Cincinnati have done in this endeavor to create an artistic industry, they should receive cordial recognition by the public, to whom they have thus rendered exceptional service.

How ready the wealthy citizens of the United States are to give efficient aid to public art institutions is evident in the frequent founding of, and generous gifts to, such centers of influence in many of the cities and larger towns. The experience of the past justifies the faith that when a satisfactory scheme for developing the artistic industries of the nation is brought forward there will be no difficulty in finding those who will secure its success, so far as individual effort and the contribution of private means can effect it.

In many matters the action of the public authorities is requisite, as they only can exert power equal to the undertaking; this is emphatically the case in all matters looking to universal public education; in undertakings of less moment, the voluntary co-operation of individual citizens has proved fully adequate. In the matter of the industrial art education of the people the appeal must be made directly to the public educational authorities, who alone can undertake so great a task. In special training and in the getting together of art collections, individuals and the public authorities, separately or conjointly, may act successfully. In the establishing of new manufactures private enterprise alone is to be relied on, though, considering the precedent set by this lady in Cincinnati, it seems not impossible that other wealthy enthusiastic art lovers may be found to undertake similar experiments, in the same spirit with which they now make donations to art museums. In this way they might be of the greatest advantage to their country by testing the new industries from which private enterprise would naturally shrink. This opens a new and inviting field for the "idle rich."

The first use of terra cotta on a large scale in the United States for external architectural decoration, must be credited to the Directors of the Boston Museum of Fine Arts, who, some two years before the opening of the Centennial, ordered from England the beautiful twisted columns which adorn the front of the building,—copies of some of the most attractive examples of the columns that support the arches of the cloisters of the churches and convents of Italy,—while they also inserted in the wall large panels of allegorical bas reliefs. This notable example, followed by the English exhibits at the Centennial showing the uses of which terra cotta was susceptible, may be presumed to have had a direct influence in inducing the general use of terra cotta in ornamental finish which now prevails. The stately building of the Long Island Historical Society at the corner of Clinton and Pierrepont streets Brooklyn, since erected, furnishes, both in the richly ornamented cornice and in the colossal ideal and portrait busts, an admirable instance of the uses of this most artistic material. The frieze of the new Produce Exchange in New York with its realistic heads of the domestic animals, is among the recent instances of the use of terra cotta on a large scale. The band of terra cotta relief which, at the top of the first story, surrounds the exterior of the immense new Pension building in Washington; presents undoubtedly the most extended use yet made of this ornament. In this work all the arms of the service are represented and the incidents natural to an army on the march are faithfully rendered,—yet, somehow, a single metope from the Parthenon outweighs it all! It is only the portion over the North Entrance that appeals to any sympathy. In this, groups of the wounded, the maimed, are seen hurrying by as best they can, striving to keep in place in the relentless onward movement of the marching troops, and the objects of the building are thereby strikingly and artistically suggested.

As this immense bas relief will be described later in this Report when the works of art initiated by and belonging to the Government are considered, it is only referred to here in passing. In the other instances noted, the natural color of the terra cotta used was in harmony with the brick or red sandstone of the building; in this case, the terra cotta is of a light buff color, wholly out of harmony with the walls of red brick, in which it is inserted like a band of mosaic. The effect is in this respect unpleasing. When this great pile of bricks,—unlike any other building in America which has fallen under the observation of the writer,—is completed; its standing as a work of architecture may fairly be discussed. At present it seems anomalous, it certainly is unique.

There is an example in the city of New York, of the value of terra cotta when used simply architecturally, in giving beauty and dignity to an otherwise insignificant building; which would be well worth the attention of persons contemplating the erection of a small church or town hall in town or village.

The building referred to is known as the "Stanton Street Baptist Church," gone up town and now on the northwest corner of 24th street and Lexington Avenue. This is a small, inexpensive, unimposing low building of brick, with a plain sloping roof and without a steeple. The entrance, which is in its gable end, is on 24th street. The front of this unpretentious building is made so attractive by the tasteful use of terra cotta as to arrest the attention of any passer by, who may be at all interested in street architecture. Following the example set by the Boston Museum building so far as in the use of the twisted pillars, this whole front is enriched by the erection of fac similes, in terra cotta, of such exquisitely carved, twisted and incised pillars of moderate height, as make of the cloisters of St. John Lateran, in Rome, a vision of beauty and a delight of memory.

In various places in the United States, at Perth Amboy, New Jersey; in the vicinity of Boston, Massachusetts; in Ohio, and near Washington, D. C., are manufactories of terra cotta and of tiling for building purposes. There would seem to be no insuperable obstacle to the almost unlimited production of terra cotta and of ornamental bricks in numerous places throughout the country, thus affording ample opportunities for local sculptors and architects. This general use of terra cotta, of tiles and of ornamental bricks, was not known in the United States, before the holding of the Centennial, and its rapid extension may fairly be attributed to that; though, as shown by the use made of it by the Directors of the Boston Museum, it was an outcome of the modern artistic movement of the European world, of which the Centennial itself was but a manifestation. Whether the art value of terra cotta shall be adequately developed in this country remains to be seen, but it is evident that the ornamental uses of it are already appreciated by builders. Of the possible art opportunities it offers, as foreseen by the architect Tefft and the sculptor Akers years ago, mention has been made in the previous paper.

The possibilities of ornament in brick work has received even a more artistic development in the treatment of the brick surface merely as a medium for sculpture,—the workmen chiseling out the artist's design upon the wall front; just as the skilled workmen in the studio of the sculptor chip off the marble till they reveal in the stone the form which the artist has modelled in the yielding clay, and cast in the more durable plaster.

This low or high relief carved in the brick gives great enrichment to the surface; its costliness, which must be a bar to its general use, will doubtless give to it a certain charm for those who wish to buy exclusiveness; it does not, however, offer the same opportunity for such variety of true art work as does the art use of terra cotta of which we have spoken; since it must, almost of necessity, be limited to the production of effects, in relief, or in incised surfaces—that is, to cameo or intaglio work.

There was one direct contribution to the instrumentalities for developing and extending industrial art training in America, which resulted from the holding of the Centennial Exposition in Philadelphia, and was an outcome as direct as that of South Kensington from the Hyde Park World's Fair; this was the founding of the Pennsylvania Museum and School of Industrial Art.

This admirable institution was created by means of the untiring exertions of many public spirited citizens of Philadelphia, and was the recipient of many gifts from the foreign exhibitors, as well as of exceptional advantages for purchases, largely availed of; it will be found fully described elsewhere among the accounts of kindred institutions. The collections, many of them received from the South Kensington authorities and from the East India Office, are placed in the permanent Art Building of the Centennial, and are well worth careful study. The liberality and courtesy of the English authorities towards this, and other art institutions in the United States, have been marked, and merit full recognition and acknowledgment. The school, after various phases of evolution, seems at last to have won the interest of the manufacturers and liberal citizens of Philadelphia; and, under the efficient superintendence of the principal Mr. L.W. Miller, himself one among the earliest and most promising of Walter Smith's graduates from the Massachusetts Normal Art School, promises to be an active influence in the artistic development of American industries. At the museum a place of honor is given to some ornamental iron work wrought by a country blacksmith, in rivalry with a specimen of the work of some early Italian artificer shown by the museum, which piqued the Pennsylvanian to his effort. This is one indubitable proof of the possible utility of such collections.

In this museum, and in this art school with its recently added practical features of the manipulation and weaving of textiles, the artistic pupil designer actually working out his own designs; in the excellent technical schools of industrial art, under the patronage and control of the Metropolitan Museum of Art. New York, and in charge of Mr. John

Ward Stimson, a thoroughly trained artist, with an able corps of technical instructors; and in the Lowell School of Practical Design, in charge of Mr. Charles Kastner and long the only school of its class in America, now connected with the manual training schools of the Massachusetts Institute of Technology; there are provided the facilities for practical technical instruction in artistic industries in the United States. These three institutions, the two first named of which have been established subsequent to the Centennial and only within the past two years have developed to their present efficiency, are perhaps the only schools able, at present, to train thoroughly instructed designers for, and workers in, artistic industries, to meet the needs of more than fifty millions of people now living in the United States. Looms for use of the pupils have been obtained by the one or two other institutions which propose to teach practical designing. Many other schools and institutions endeavor partially to meet these needs and do so in some measure fairly well. Accounts of these will be given in Part II of this Report.

Some large manufacturers—liberal minded men like the Hoes of printing press fame, for example, or Tiffany & Co., with their need for skilled artistic artisans—provide schools of their own for the boys and youth who are in their employ. A plain elementary English education and such training in drawing as is specially adapted to their own work, is all that is attempted by the Hoes; so much is carefully and conscientiously given, the attendance being compulsory.

The training given by Tiffany & Co. is of two kinds, in the designing room and in the factory, the object being to train artistic designers in the one place and skilful workers of artistic designs, in the other. In each case it is a workshop rather than a school, only the young workers are guided and advanced, as they show ability, to the more difficult kinds of work. The designers' rooms in the upper story of the great building on Union Square, afford a most interesting sight. There young and old artists work under the wise and skilled direction of Mr. J. H. Whitehouse, the head designer who created the Bryant vase, and who designs the many important art works which, from time to time, issue from the ateliers of this celebrated house. The names of many of these young art workers suggest German or French parentage. It would be an interesting inquiry to seek to ascertain the relative ratio of those showing artistic capabilities among American children who are of foreign born parentage. While all children can learn to draw, it has fallen under my notice that when at a public exhibition of scholars drawing on the board, the most of those who showed the possession of marked artistic facility were of foreign parentage. Heredity should count for something, and the descendants of most of the original colonists, have had very little of artistic development to inherit during the past two centuries. It may then easily happen that in the United States there will be found fewer children with artistic proclivities among the descendants of English ancestors than among those of foreign lineage. In England, to-day, the names of a number of the leading artists proclaim or suggest a foreign origin, while of the four great allegorical groups which surround the Albert Memorial in Hyde Park, the names of the three sculptors who designed three of them, seem to be unmistakably Celtic.

The Centennial did much in calling the attention of Europeans to American institutions and to the artistic conditions of the country, especially was attention directed to the systems of education of the several States. Commissioners from France and England have visited the United States, investigating various phases of education and making reports thereon to the home government.

The well known artist M. Felix Regamy came some years ago to learn what the Americans were doing in the way of education in art, and on his return to France published a beautiful little volume with illustrations of several of the American art schools and academies.

The book also contains a touching tribute to the lamented Mr. Stetson—the author of the Special Report upon Drawing in the Centennial—a bas relief likeness surrounded by appropriate emblems preserves the memory of this able and conscientious worker in the cause of technical and industrial art education. It was a pleasant surprise to find in a foreign report such a tribute to the memory of a modest unobtrusive worker, whose name and *vera effigies* had thus been thought worthy of perpetuation by an appreciative fellow worker in another land. M. Buisson's report to the French Government, on education in the United States, is well known.* In this important work, based largely but by no means exclusively upon his study of the educational exhibits at the Centennial, M. Buisson commends most highly Professor Walter Smith's system of drawing for public schools. †The great Report of the

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* For translation and resumé of this admirable report see "Circular of Information of the Bureau of Education" No. 5. 1879.

† Technical Instruction. Second Report of the Royal Commissioners on Technical Instruction. London Printed by Eyre and Spottiswoode. 1884. [C 3981] Five volumes.

English Royal Commission on Technical Education contains a special report, made by Mr. William Mather, on Technical Instruction in America, (see Vol. II, Part 2) in which but two or three of the Art Institutions are mentioned; his time and attention being evidently fully occupied with the technical mechanical schools and collections. He mentions, in passing, that the small collections of the Pennsylvania Museum and School of Industrial Art consist mostly of gifts from England. His estimate of the size of these collections and his attributing the best of them to the presents from England, at first seemed surprising, but when the vast collections of the South Kensington Museum are put in comparison with those of the Pennsylvania Institution, there is no longer any reason for wonder that, to one accustomed to seeing the former, the latter should seem almost insignificant in amount; and that the English gifts should be estimated as forming a large proportion of the whole; and yet the collection was for some years altogether the best of its kind in the United States. The collections of industrial art now shown by the Boston Museum of Fine Arts, and the similar collections owned by the Metropolitan Museum and awaiting the completion of the addition to their building, promise a formidable rivalry in extent and excellence. It is only by such comparisons as are made by Mr. Mather that we can know how few and limited are our collections and instrumentalities for technical art industrial training, as compared with the countries of Europe. This should stimulate Americans to make all the use possible of our unrivalled public schools in making general, elementary artistic training. In the latest Report of the English Science and Art Department (1885) there is a special report by Mr. Valentine Ball, M. A., F. R. S., F. G. S., Director, Science and Art Museum, Dublin, on American museums, mostly given to institutions in Canada, but in which high tribute is given to the Metropolitan Museum in New York and to the National Museum in Washington, Professor Baird's system of interchangeable drawers, cases, etc., being especially praised.

In the notice of the Metropolitan Museum, Mr. Ball indicates its comprehensive purpose by saying that it "aims to combine the functions of the National Gallery, the Art Departments of the British Museum, and the South Kensington Museum." After a concise account of its history, collections, and technical schools, he thus concludes:

"Interesting and remarkable as has been the history of this Institution in the past, its career in the future bids fair to be still more remarkable. Like many other American Museums, it has acquired collections which will ever prove a source of attraction, not only to the American public in a general way, but specially to the students of particular branches of Art and Science, from whencesoever they may come.

"Wealth in America, and varied causes needless to specify in Europe, are leading to a steady transference of the Art and Science treasures of the old world to the new. It seems possible, and almost probable, that the rate of this transference will speedily augment, and the time may come when, for the European student of Science and Art, a pilgrimage to America will become a necessary part of his education."* Mr. Ball was greatly impressed with the "variety, extent, and value" of the Art Collections of this Museum. Such testimony is the more acceptable by reason of recent attempts to diminish the public estimate of the value of the collections and the importance to the community of the services undertaken by the promoters of this admirable Institution The final suggestion made by Mr. Ball is encouraging to the Art lovers of America.

It is with the museums of Natural History and Science that Mr. Ball is especially interested. Neither he nor Mr. Mather attempted to visit or describe the Museums or Schools of Art; such notice as these receive being incidental, and apparently accidental. That any mention of them should be found in English governmental reports, indicates a marvellous change in the judgment of the English authorities as to the significance and importance of American affairs.

In this necessarily incomplete and imperfect showing of the present condition and development of artistic industries in the United States, as contrasted with the situation before the opening of the Centennial Exposition, which has been attempted in this paper and the one immediately preceding, enough has been brought together to show that, besides the educational interest excited in regard to elementary training in industrial art drawing in public schools, and the efforts initiated for technical training, all of which are fully described in the several parts of this Report,† there has been an actual development of artistic industries.

As capital and knowledge must combine with enterprise before a new manufacture can be established, it is not at all strange that such undertakings were not at once begun at the close of the Exposition. It had first to be ascertained whether this new interest in art products would be continuous; and then knowledge of the proposed industry and workmen skilled in its processes were needed, before such industries could be established here. The rapidly increasing demand for foreign artistic goods showed that the newly acquired tastes were likely to continue and develop. The various artistic educational movements and enterprises all over the country gave a further pledge of the possibility of a profitable development of artistic industries. The beginning of an era of architectural development was assured and the stimulus this imparted to all the decorative arts subsidiary to architecture, was evident. The development of industry in these ornamental arts during the nine years since the Centennial, is very noticeable in all the large cities. In Ceramics, there has been an absolute creation of art industries. No Art Pottery or artistic Ceramics of any kind, other than the Low art tiles, having any claim to art qualities, were made in the United States before the Centennial.

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* 32d Report Science and Art Department, Appendix M, pages 321–2.

† The statistics of the schools of the Industrial and Fine Arts and of the Art Museums are given in the tables in Part I, see pages 386–411. For the present condition of drawing in public schools see the special report, Part I, Appendix E., page 694.

To-day, not only are the works opened by John Bennett in New York, and the art potteries of American origin established in Cincinnati, producing beautiful wares, but the purely business potteries, such as those of Messrs. Ott and Brewer and of the Greenwood Company of Trenton, and Messrs. J. Haynes & Co. of Baltimore, are attempting to rival the artistic productions of the European potteries, and with most encouraging success. This means that a new industry has been established in the United States; which means, or ought to mean, an increase of prosperity. In old established industries such as are those of the gold and silver-smiths, in the making of carpets, of dress goods, of paper hangings, of furniture, of house decorations, of glass, of stationery, of chromo lithography, of engravings and of all the forms of graphic reproductions of works of art, there has been a remarkable increase of beauty and decoration; especially in the interior decoration of dwellings, and of public halls, churches and theatres, is an improved taste and skill noticeable; so that the influence of the holding of the Centennial Exposition has been a positive force in the development of artistic industries in the United States. When, therefore, we look back and contrast past ugliness, almost universal, with the present almost as universal prevalence of some artistic qualities in all the surroundings of city and town life in the United States, there would seem cause for endless congratulation and boundless national complacency; soon checked, however, if, with an increased knowledge of what constitutes the art quality in the works of man's hands, we contrast our present condition as to artistic manufactures with that of any other civilized nation; for then our swelling pride receives a sudden check, since our inferiority is so manifest that no amount of personal or patriotic vanity can blind us to it. When we look around to see what is the promise for the future, and contrast the smallness of our preparation for developing the artistic industries, with the largeness of that made by so small a state as Belgium, for example,—we should be filled with humiliation.

A beginning has, however, been made in the right direction; the elementary training in drawing begun in the schools of Massachusetts fifteen years ago, has not been wholly fruitless; the possibility of public education in the elements of art, so far at least as to fit the pupil for after technical training in any special art industry, has been abundantly demonstrated; the utility of the few existing technical training schools has been proved; the practical value of artistic industries is made clear by the fact that manufacturers begin to undertake them as a business venture; the immigration of trained workers in these arts promises the successful and speedy establishment here of such industries, just as they were once imported into France from Italy, and into England from France.

In the Report which follows, an attempt has been made to set down the various instrumentalities, for the development of arts and of artistic industries now existing in the United States.

In the Appendices, the facilities and methods of other nations, are recited. Attention is asked to the poverty of our present resources as compared with the nations with whom we must compete. The axiom, that "What man has done man can do," has been a guiding motto of the Americans from their first setting foot on the continent, and the whole of their history is a logical deduction from that premise. It has therefore been thought proper to set down fully, yet as briefly as possible, the methods, means and appliances made use of by other nations for the development of their arts and industries. These statements are now offered to the American people in full faith that, some time, whether near or far off, the Republic of America will gloriously vindicate and demonstrate the essential Democracy of Art!

DRAWING IN PUBLIC SCHOOLS.

CHAPTER I.

EARLY EFFORTS TO INTRODUCE DRAWING IN THE PUBLIC SCHOOLS.

Historical summary of occasional efforts, during the past century, to introduce industrial drawing in the public schools, in various places in the United States — Reasons for inviting Walter Smith to leave England and come to Massachusetts — Active assistance by Superintendent Philbrick and others — Account of some educational innovations, early in the century, by Master Fowle, of Boston — He introduces drawing and other new studies — Parallel suggested between the experiences of Master Fowle and those of Prof. Walter Smith — Early advocacy, by Hon. Henry Barnard, of drawing in public schools and of technical industrial education — Early efforts by American artists to introduce drawing in the schools — Hitherto unpublished matter relating to Rembrandt Peale in Philadelphia — Peale's earnest desire to popularize a knowledge of drawing — Account of his labors in a letter addressed to United States Commissioner Eaton, by the late Prof. John S. Hart — Peale's analysis of his own system — Peale's system indorsed by experts — Interesting statements by artists, civil engineers, scientific professors, and teachers — Success of Mr. Minifie in teaching drawing in the Boys' High School, in Baltimore, Md., in 1848 — Minifie's system, progressive and based on geometry, very similar to that of Walter Smith — Minifie's text book adopted in English Government art schools as early as 1852 — Ignorant city school committeeman removes teacher and his system from the school in 1849, and so retards, for twenty years, the progress of industrial art training in Baltimore — Disastrous effect of this stupidity as shown by the Centennial Exhibition of the drawings made in Baltimore schools — Interesting incident some thirty years later in connection with retention of Smith's system in the schools — Minifie's addresses on industrial education, delivered before Maryland Institute, published 1854 — Incident at State Normal School Exhibition in 1879 — Letter from Mr. Minifie describing former scarcity of art educational text books.

WHY, IF SO DESIRABLE, WAS DRAWING NOT EARLIER INTRODUCED INTO THE PUBLIC SCHOOLS?

It may reasonably be asked, if the system of industrial drawing possesses the claims to public consideration urged for it by its advocates, why it is that so many years had gone by before any attempts were made by American educators to include it among the studies taught in the public schools?

This recalls a remark by De Quincey, that the art of printing was probably discovered many times, but was forced to wait for recognition till the invention of paper, since some cheap and plentiful substance adapted to the needs of the new process was essential to its general use. So, with the adoption of this new study, a general demand for some change in the established methods of school training and the multiplication of public schools, due to the development of the system and its adoption by new communities, were both prerequisite essentials to any general consideration of new methods in elementary education.

EARLY TESTIMONY TO THE VALUE OF THIS STUDY.

It is a matter of interest, historically, to trace in widely separate communities the early indications of a conviction, on the part of some, that drawing ought to be taught in all the common schools of the country as one of the essential elementary studies. It is also a valuable contribution to the present discussion of this question to show, by recorded evidence from the past, that the high opinion now expressed by its advocates as to the importance of the study, both educationally and practically, is neither extravagant nor the expression of a mere passing fashion of the hour, but is a sober, well considered opinion, such as has been always held by those competent to form an intelligent judgment.

In this connection it is of interest to learn that it is even possible to claim for the early advocacy of this study of drawing the high authority of Benjamin Franklin, whose active mind was ever prolific in suggesting and originating practical plans for the improvement of his countrymen. After having founded in Philadelphia the public library, in 1732, he busied himself in plans for the education of youth and, in 1749, published his "Proposed hints for an Academy," in which he suggested both a school teaching the learned languages and, side by side, a purely English school, examples of which institutions have long existed in the country, as, for instance, in Phillips Academy at Andover, Mass., Leicester Academy, Leicester, Mass., and many of the older schools which, while engaged in preparing some pupils for entrance to college, had always a large attendance of scholars pursuing only English studies.

In hints for the Academy, Franklin says:

> *Studies to be selected and adopted.*—As to their studies, it would be well if they could be taught *everything* that is useful and *everything* that is ornamental. But art is long and their time is short. It is therefore proposed that they learn those things that are likely to be *most useful* and *most ornamental;* regard being had to the several professions for which they are intended.
>
> *Writing, drawing, and arithmetic.*—All should be taught to write a fair hand, and swift, as that is useful to all. And with it may be learned something of drawing by imitation of prints and some of the first principles of perspective, arithmetic, accounts, and some of the first principles of geometry and astronomy. (Vol. 27, 1877, Barnard's Journal of Education.)

It will be seen here that drawing is classed among the most useful studies. In his plan for the English school, after having given the details for each year of the course, he says:

> The hours of each day are to be divided and disposed in such a manner as that some classes may be with the writing master, improving their hands, others with the mathematical master, learning arithmetic, accounts, geography, use of the globes, drawing, mechanics, etc., while the rest are in the English school, under the English master's care.

> Thus instructed, youth will come out of this school fitted for learning any business, calling, or profession, except in such wherein languages are required; and though unacquainted with any ancient or foreign tongue, they will be masters of their own, which is of more immediate and general use; and withal will have attained many other valuable accomplishments; the time usually spent in acquiring those languages, often without success, being here employed in laying such a foundation of knowledge and ability as, properly improved, may qualify them to pass through and execute the several offices of civil life with advantage and reputation to themselves and country.

It will be seen that here also drawing is included, the context showing clearly that it is as a useful study, in connection with "mechanics," and not as a mere accomplishment, that he has included it.

The purpose of the training in this school was, as were all of Franklin's plans, its practical utility. So, more than a century before the study was formally introduced on a practical basis in the schools of his native town of Boston, this Boston boy sought to induce his fellow-citizens of Philadelphia to adopt it.

It will be further seen in the course of the necessarily brief and confessedly incomplete review of the records of the past attempted in this chapter, that, so far from its having been the case that the advent of Prof. Walter Smith in Boston signalized the first attempt to introduce this study in the public schools of America, the new movement which he was called to inaugurate was, in fact, but the final successful outcome of a long series of similar sporadic attempts in various communities in the United States; notably, for instance, that undertaken by a certain "Master Fowle" in that very city of Boston, two or three generations ago.

In the coming of Professor Smith, the hour and the man happily met. The successful result of the efforts in Great Britain to improve the manufactures of that country by the definite training of large numbers of youth in drawing, which had then been going on for some twenty years, was known to many citizens of Boston and its vicinity. The inferiority in artistic qualities of the products of the manufactories of New England at that time, was painfully apparent to all who had an opportunity of contrasting their ugliness with the beauty of the exquisite designs shown in the products of the looms and potteries of France and England; nor could this inferiority fail to profoundly impress all who were interested in the prosperity of American manufactures. The man who had been chosen as the one to make the experiment of introducing the study of industrial drawing in the public schools of the State, was unquestionably a man of unusual genius, possessing extraordinary powers of inspiring confidence and awakening enthusiasm. Thoroughly trained in the successful methods of the English system, and admirably endowed with natural gifts, Walter Smith was peculiarly fitted to undertake the almost Herculean task—an else impossible task, but for the aid of so distinguished an educator and able executive officer as was Mr. Philbrick, then city superintendent of the schools of Boston, joined with the hearty support of Mr. Charles C. Perkins, Prof. William R. Ware, and of numbers of like public spirited citizens. The late Charles B. Stetson, teacher and author, and the enterprising publishing firm of Osgood & Co., gave most efficient aid in the work of disseminating information concerning the new education.

OBSTACLES INCIDENT TO ALL SUCH EXPERIMENTS.

Such were the circumstances and the influences which combined to secure the success of the experiment begun in Boston in 1870. Nevertheless, with all these favorable surroundings, the struggle for existence of the new study was an arduous one; nor is it yet wholly over in Boston, though its subsequent introduction in so many centres in the United States is security that it can no longer be ignored.

The same difficulties that so often defeated the efforts of intelligent and public spirited artists and educators in various places during the previous years of the century are not unknown even in Boston; namely, the occasional presence of officials in important positions with power to direct and hamper the educational policy of a given community who do not rightly value new methods or needs; this difficulty—which is peculiarly liable to occur in popular governments, though not wholly unknown to any form of government—is a tax paid by the people for the ignorance of officials. The failure of previous similar efforts was owing, wholly or in part, to this ignorance of school authorities and to the indifference of the public, who had not then felt the pressure of any need of industrial training for their children and who had themselves no knowledge of the value of the proposed study. When we recall that it was not till 1851 that such a crowded country as England awakened to the need of this elementary education, it is not surprising that it was not felt in the United States till twenty years later.

WILLIAM BENTLEY FOWLE OF BOSTON.

In the very interesting biographical sketch of William Bentley Fowle—the "Master Fowle" referred to above—published in Dr. Barnard's American Journal of Education[1] in 1861, is an account of the educational movement initiated by a very remarkable man who, while a member of the school committee, unexpectedly found himself transformed into a teacher.

The master of a large boys' school in a part of the city where such a school was much needed was suddenly taken sick, and as no fit teacher was to be had at the moment the school was about to be disbanded. To avert what seemed to him almost a disaster Mr. Fowle volunteered to take temporary charge. This willingness indicates the profound interest of the man in educational matters. The subsequent death of the former teacher prolonged the term of his voluntarily assumed duties, with the result that teaching finally became his life work. For many years he was master of a flourishing school.

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[1] The American Journal of Education, edited by Henry Barnard, LL.D. Hartford, Conn.: F. C. Bunnell. London: Trübner & Co., 1861. See Vol. X, No. XXV, June, 1861.

His methods were as unusual as was the manner of his entering upon the life of a teacher. He was evidently a born educator. Original, enthusiastic, and able, he disturbed the serenity of the plodding pedagogues of the day, to the great advantage of the rising generation of school children.

The account of many of the experiences, struggles, and successes of this innovator almost seems to be but a recital of the successive steps in the history of the relation of Walter Smith to the schools and school authorities of Boston in his efforts to make drawing in the public schools a success during the period from 1870 to 1882, inclusive.

It is to be hoped that the history of the failure which followed the retirement of Mr. Fowle from the school, after seventeen years of successful teaching, will not, with the retirement of Prof. Walter Smith, be repeated in the history of drawing in the Boston schools.

It is a matter of encouragement, however, that Mr. Fowle's efforts and innovations were not wholly fruitless, as a brief recital of some of the most important of them will show.

The school over which he so unexpectedly presided was one for children for whom no schools were then provided, they being too old to enter the primary schools and too ignorant for the grammar schools. The method adopted was the Lancasterian, or monitorial, the introduction of which, owing to various causes, met with much opposition from the body of public school teachers.

The result of his success with this class of pupils led to the founding of a new grade of public schools to meet the needs of such children; these schools are known as the intermediate, and are now found in most of the city school systems.

It was in the year 1821 that Mr. Fowle took charge of this school. These are some of his innovations: The use of blackboards, of which he had twelve; the daily drawing of maps on these blackboards and on paper and slates by the pupils in geography; the permitting of girls to attend this school all the year round—previous to 1790 the Boston girls were not allowed to attend public schools at all, from 1790 till 1821 they could attend only from April to October. It is well, sometimes, by thus recalling the memories of the former things which have passed away to measure our advance and to see how it is that such "pestilent" innovators, reformers, and original geniuses have benefited mankind.

DRAWING BASED ON GEOMETRY, INTRODUCED INTO HIS SCHOOL BY MR. FOWLE.

Besides the use made of blackboards in geography and in learning to write, "Drawing, not only of maps, but linear drawing in its simplest application to geometrical figures especially, was made a regular exercise."

Eventually the old fogies succeeded, in 1823, in getting Mr. Fowle out of the public schools; but so great had been his success that a company of private citizens built a school-house, supplying it with every kind of philosophical apparatus, and called Mr. Fowle to take charge of it.[1] This school was called "The Female Monitorial School," was attended by 100 pupils, and was so successful that it led to a remodelling of the public schools and the establishing of several girls' high schools. This was in 1828, and Mr. Fowle, in that year, finally succeeded in securing the right of girls to attend public schools during the entire year!

In 1827 Mr. Fowle had copyrighted an elementary work on drawing, in part translated from the French,[2] which must have met with some degree of success, as a third edition, with additions, was published in 1830.

To the second edition the translator had added a second part of his own, "containing the elements of perspective drawing," and also a series of questions upon each of the chapters. To the third edition was added "An appendix to Part 1, wherein directions are given for drawing, *by the aid of instruments*, all the geometrical figures previously explained." This was translated from a later edition of the original French work. A few pages of problems in arithmetic and geometry are added, and three plates of outline illustrations, showing the orders of classic architecture, problems in perspective, and geometrical diagrams. That blackboards were then a novelty curiously appears from the following notice at the end of the book, to the effect that—

> The difficulty of obtaining chalk suitable for drawing or writing on boards painted black has induced the author to procure and keep on hand a quantity of artificial French chalk, in crayons of a convenient size, at 25 cents a pound. This chalk has no hard particles in it, wears well, and does not waste. Artificial chalk for slates can also be furnished at short notice.

The following extracts from the introduction show that Mr. Fowle had a comprehension of the utility of drawing as a matter of elementary education, though there is no evidence that he thought of its applications to industries as the leading argument for its introduction into public schools; but the necessity of basing it on geometry and the possibility of its being taught by persons not themselves far advanced in knowledge of the art, the two marked features of Walter Smith's system, are clearly set forth and were successfully practised. The pupil teachers taught drawing to their fellow pupils in Mr. Fowle's school, just as the public school teachers, fresh from the teachers' institute classes or from the teaching of the town or city art master of the schools, now teach their pupils: the master trained in the Normal Art School teaching the teachers and the teachers teaching in turn the pupils.

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[1] The recent calling of Professor Smith to take charge of the New England Conservatory School of Fine Arts, in Franklin Square, Boston, continues the parallelism between the experiences of the two men.

[2] An introduction to linear drawing, translated from the French of M. Francœur; with alterations and additions to adapt it to the use of schools in the United States. To which are added the elements of linear perspective, and questions on the whole. By William B. Fowle, instructor of the Monitorial School, Boston. Third edition. Boston: Hilliard, Gray, Little & Wilkins. 1830. Ill. pp. 86.

An elementary treatise on drawing, adapted to the use of common schools, cannot but be well received. Besides the professions which make the art of drawing their particular study, anatomists, naturalists, mechanics, travellers, and, indeed, all persons of taste and genius, have need of it, to enable them to express their ideas with precision and make them intelligible to others.

Notwithstanding the great utility of this branch of education, it is a lamentable fact that it is seldom or never taught in the public schools, although a very large proportion of our children have no other education than these schools afford. Even in the *private* schools where drawing is taught, it is too generally the case that no regard is paid to the geometrical principles on which the art depends. The translator appeals to experience when he asserts that not one in fifty of those who have gone through a course of instruction in drawing can do more than copy such drawings as are placed before them. Being ignorant of the certain rules of the art (and they are the most certain because mathematical), they are always in leading strings, and, unless endowed with uncommon genius, never originate any design, and rarely attempt to draw from nature. It is to remedy this defective mode of teaching that the translator has been induced to present this little work on the elements of drawing to the American public.

Most of our faculties, when exercised, may attain to a surprising degree of perfection. A precision may be acquired by the eye and hand almost equal to that of ordinary instruments. With this view, the society for the improvement of elementary instruction in France directed some of their most distinguished members to procure a work on the art of drawing which should be applied to the system of mutual instruction, there the national system. The following treatise is, in great measure, a translation of that approved by them. It is not intended for a treatise on the art in all its numerous branches, but merely the linear, and, of course, the fundamental and most useful part of it.

The geometrical figures are arranged according to the difficulty of their execution, rather than in the order of theorems.

Each figure is accompanied with suitable explanations, so that the teacher or monitor will easily comprehend them, and be able to teach them to his classes, without much previous acquaintance with the art.

The pupils are each furnished with a slate and pencil. The monitor directs what figure shall be drawn, and if the pupils are not all furnished with this treatise he chalks the figure on a board, painted black for the purpose and suspended where all can see it. The slates are then examined by the monitor, and precedence is given to whichever pupil has executed the figure best.

The instructor should select a sufficient number of the most skilful for monitors, who should be under his immediate instruction. As soon as they have become expert in drawing the figures of the first class, a second may be formed, to be instructed by the first class (which now becomes the second), and so on to the sixth. The highest class, under the master, may consist of about fifteen pupils. The lower classes may consist of any number, but for every six or eight scholars there should be a monitor. * * *

Although this treatise was originally designed for schools of mutual instruction, still a slight examination of it will show that there is nothing which unfits it for use in schools on any other plan. If the pupils are all taught and their drawings examined by the instructor, they will do well; but if they are likewise required to examine and correct each other's work they will do better. They will acquire a familiarity with the figures and an exactness in execution to which mere *learners* seldom attain.

CALISTHENICS, MUSIC, AND SEWING INTRODUCED INTO COMMON SCHOOLS BY MR. FOWLE.

Besides the introduction of drawing based on geometry, Mr. Fowle introduced both physical exercise and the study of music as a part of the regular exercises of the common schools. This last he was incited to by learning of the success of the experiment in Spain, but he had to wait some years, till the advent of Lowell Mason, before music as a study was practically introduced in the schools of Boston. Mr. Fowle also introduced needlework — sewing — in his school, giving two afternoons each week to this, and it is an interesting fact that his first teacher of sewing was Miss Dorothy Dix, later so well known as the philanthropist.

It is also interesting to note that the same volume — Vol. X of the Journal — which contains this sketch of Mr. Fowle has a long article on drawing, translated from the German of Dr. Ernest Hentschel, which gives clear definitions of the various methods and purposes of drawing, a general scheme for instruction in drawing, and outlines a course of "proper exercises for the common schools." The keynote to this article is found in this sentence: "It is always the duty of the common schools to give instruction in drawing; and only unavoidable deference to still higher necessities can exceptionally justify a temporary omission of it."

AMERICAN EDUCATORS EARLY INFORMED OF EUROPEAN MOVEMENTS TOWARDS DEFINITE INDUSTRIAL TRAINING.

This article was published in the leading American journal on education as early as 1861, which shows that a decade before the coming of Professor Smith to Boston and apart from the actual experiments which had been, at long intervals of time, sporadically undertaken here and there in various parts of the country, the minds of leading American educators were thus becoming familiarized with the successful efforts of foreign countries in undertaking such training of school children in drawing and its kindred studies with the definite purpose of developing technical skill in the arts and manufactures of a people. American educators were thus becoming prepared for the introduction in the United States of the new industrial education of which the general adoption of the study of drawing by the public schools is the precursor and sure foundation.

PIONEER WORK DONE BY HON. HENRY BARNARD.

In this connection it is due to one of the most distinguished of the pioneers of the new education to recall the fact that, so long ago as 1838, the Hon. Henry Barnard, the editor of the American Journal of Education just referred to, who, on the establishment of the United States Bureau of Education in 1867, was appointed the first United States Commissioner of Education, delivered in many parts of the country an address on the subject of industrial education, in which he called the attention of the manufacturers of the United States to the direct educational efforts made in various European countries for the training of artisans and artists, with a view to the improvement of manufactures. In this address Mr. Barnard urged that drawing should be taught in the common schools; nor was this the only evidence of his foresight and interest in the development of industrial education. The volumes of the Journal contain many articles upon both art and industrial training, and in Vol. XXI (entire series), published in 1870, there is a history and full description of the technical, polytechnic, and scientific schools in each of the countries of continental Europe.[1]

This publication, despite the lapse of time, is still the most complete summary of the scientific educational resources of Europe to be found in any one volume published in this country.

In the third number, October, 1838, of the Connecticut Common School Journal, edited by Hon. Henry Barnard,[2] and published monthly, at Hartford, occurs the following extract on

THE PRACTICE OF MUSIC AND DRAWING IN SCHOOLS.

[From Professor Stow's Report on the Prussian Schools, made to the legislature of Ohio in 1838.—A pamphlet.]

The universal success also and beneficial results with which the arts of drawing and designing, vocal and instrumental music, have been introduced into schools was another fact peculiarly interesting to me. I asked all the teachers with whom I conversed whether they did not sometimes find children actually incapable of learning to draw and to sing. I have had but one reply, and that was that they found the same diversity of natural talent in regard to these as in regard to reading, writing, and other branches of education; but they had never seen a child who was capable of learning to read and write who could not be taught to sing well and draw neatly, and that, too, without taking any time which would at all interfere with, indeed which would not actually promote, his progress in other studies.

It will be noticed that Professor Stow here anticipates the similar statement of Prof. Walter Smith, heretofore quoted, as to the capacity of all to learn to draw.

When editorially treated in these volumes, drawing is generally considered pedagogically, for its usefulness as a means of interesting and incidentally of instructing the pupils, not with a view to its own value in relation to industries. However, in extracts from various publications and in the accounts of various educational institutions all over the world, the study is recognized for its usefulness in many directions. In an account of the industrial school at Ealing, England (in No. 14, Vol. II, pages 263–265, July, 1840), after a very interesting description of the manner in which the children are taught gardening and many of the commoner mechanical employments, such as carpentry and bricklaying, as well as English studies and singing, drawing is thus treated:

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[1] This volume is substantially a reprint, with the addition of a prefatory chapter comprising a brief statement of similar education in Great Britain, of the special report prepared while he was Commissioner of Education. The full title of the report is "Scientific and Industrial Education: An Account of Systems, Institutions, and Courses of Instruction in the Principles of Science applied to the Arts of Peace and War in Different Countries. Special Report of the Commissioner of Education, 1869. pp. 784." In the series of the American Journal of Education this appears as "Vol. V of National Series of the American Journal of Education, Vol. XXI (entire series). Hartford: Office of the American Journal of Education. London: Trübner & Co., Paternoster Row. 1870." pp. 805.

[2] The Connecticut Common School Journal, published under the direction of the board of commissioners of common schools, from 1838 to 1842. Volumes I, II, III, IV. Edited by Henry Barnard 2d, secretary of the board. Hartford: Printed by Case, Tiffany & Burnham, Pearl street. 1842.

> Drawing has been commenced, and, as the plan develops itself, will occupy an important place in the school instruction, as a means not only of interesting the children in the variety of forms of objects, but as one of obtaining, communicating, and retaining ideas upon which language operates but faintly. A man sees an agricultural instrument, a press, a coop, a mill, or a building, constructed upon a novel plan, so as to secure peculiar advantages; he wishes either to make one of a similar description or to instruct another how to do so. Without the power of drawing, repeated visits must be made, and perhaps the object itself must either be copied on the spot or borrowed for that purpose; for, although the mind may have seized the general idea at once, the different details (upon the proper disposition of which the nature of the instrument or building perhaps depends) are rarely all observed, or if observed not recollected. If he draws the object the case is otherwise; in the first place, every line stamps a distinct recollection, and as the object must be surveyed in detail, the mind will be drawn to a closer scrutiny if the reason of any appearance is not immediately evident. In this manner the individual not only obtains a more definite and useful idea himself, but is enabled to communicate it to another with a clearness which by words alone it would have been impossible to effect.
>
> It was wished by the founder of the school to make lessons on objects and other instruction have reference to the out-door employment. As yet this is but imperfectly done. With a master new to the subject it is evident that the whole design cannot be effected at once. One step must follow another, and the plan kept steadily in view must be gradually worked out. Although much has already been effected, and the foundation is firm, the full development of the plan will require time.

While in No. 15, Vol. II, August, 1840, in an account of the Royal Realschule of Berlin (page 301), much space is given to a description of the methods of treating this study:

> The drawing department of this school is superintended by a teacher who has introduced a new method of instruction particularly adapted to the purpose for which drawing is to be applied in common life and in the arts; a method which is found to enable a much larger proportion of the pupils to make adequate progress than the ordinary one of copying from drawings. In this method the pupil begins by drawing from simple geometrical forms, those selected being obtained from models in wood or plaster, of a square pillar (seven and a half inches high, and one inch and a half in its square section), a niche, and a low cylinder (the form of a millstone). The square pillar separates in joints, affording a cube and parallelopipeds of different heights. The hemisphere which caps the niche may be removed, leaving the concave surface of its cylindrical part. The exercises of the pupil run thus: First, to place upon a board, or upon his paper or slate, a point vertically above another, or so that the lines joining the two shall be parallel to the right or left hand edge of the board, paper, or slate; second, to join them; third, to place a point horizontally from the second, and at a distance equal to that between the first and second points; fourth, to place one dvertically over the thir, and at a distance equal to that below the first,

and to join the third and fourth. The first and fourth being then joined, a square is formed. After practice in this, the simple elevation of the cube is drawn; next, a perspective, by the use of a small frame and silk threads, such as is common in teaching the elements of this subject, and by means of which the pupil acquires readily a knowledge of the practice. The drawing of lines in various positions, and with various proportions, terminates this division of the subject. The niche and cylinder afford a similarly graduated series of lessons on the drawing of curved lines, and the drawing of lines of different degrees of strength and of shadows is introduced. This is accompanied with some of the more simple rules of shadow and shade. More difficult exercises of perspective follow from natural objects and from works of art or mechanism, according to the direction to be given to the pupil's attainments and the amount of taste which he displays. This method of teaching has been introduced quite generally in Prussia, and with the best results as to the formation of accuracy of eye and of hand.

In No. 4, Vol. IV, date of February 1, 1842, occur the following paragraphs, the first in an account of how drawing is taught in the National Model School of Ireland. It will be observed that the blackboard is here used in giving class instruction, which is a distinctive feature of Walter Smith's system for the public schools:

Linear drawing, too, is not only useful but necessary in several other branches of education, as in constructive geography, geometry, mensuration, and land surveying, But enough has been said to show the utility of this branch of education ; let us now give an outline of our method of teaching it. The simultaneous method is employed in teaching linear drawing. The master draws with chalk on a large blackboard, conspicuously placed, the lines or figures which constitute the lesson, and the pupils in large divisions, after receiving the necessary instructions, draw them on their slates, commencing simultaneously, as in the writing classes.

The first lessons are right lines, angles, rectangular figures, curved lines, circles, and ovals; then copies of the cube, prism, cylinder, cone, sphere; and, finally, the combinations of these figures, as in boxes, tables, chairs, mechanical and agricultural instruments, machines, buildings, &c.

LINEAR DRAWING IN EUROPEAN SCHOOLS.

Linear drawing, as a branch of instruction, is much more cultivated abroad than with us, and pains are taken to give it a practical direction. In various schools we found children able to produce excellent designs for furniture and cabinet work; and the superior beauty of Brussels lace we discovered to be owing to the simple fact that every girl in a common free school, likely to be a lace maker, is instructed in the art of designing lace patterns. — *Dutch and German Schools.*

This is followed by a long article on map drawing, in No. 7, Vol. IV, March 15, 1842, in an extract from Miss E. P. Peabody's work on Linear Drawing, in which the study is urged on various grounds. The following paragraphs show an appreciation of the practical utility of the study:

Nor, secondly, is the intellectual influence less apparent. This simple recreation always at hand, never troublesome or expensive, cultivates in him the powers of observation, of curiosity, of comparison, and of imitation. It exercises his eye, his hand, his attention, his discrimination—invention. A child cannot look at a house, a bridge, or a tree, or any object whatever, with the design to make a drawing of it, that every one of these faculties is not brought into action. And what is the great purpose of education ? Not merely the knowledge of this or that fact or principle, but the free

> use, the fair development of all our faculties, ready for any application which after-life may demand. * * *
>
> And, thirdly, drawing is a talent which may always be turned to use. There is scarcely a trade, profession, or science which does not require its aid. It conveys knowledge which could in no other way be imparted, and those who can exercise it, whether male or female, are in possession of a certain means of earning a subsistence. There is an increasing demand for artists, to draw plans, patterns, anatomical, botanical, and other scientific representations and diagrams. Not a patent for a machine can be taken out unless a correct drawing accompany the petition. Not a lecturer on any subject which embraces objects of sight, such as astronomy, geology, natural history, scenery, or tho mechanical powers, but must rely on some artist for his diagrams and drawings, without which he would in vain attempt to communicate clear ideas to the audience he addresses. There is scarcely an individual to be met with who will not admit that he has often wished he possessed the power to delineate, even in a rude style, the object he has occasion to describe or remember. Next to writing, the art of drawing is of general use, and its acquisition will be valuable, whatever may be the business or condition of life.—*Linear Drawing.*

That the editor thought best to republish entire a manual for the instruction of teachers in the use of the blackboard,[1] shows that this now universal article of school furniture had not then come into general use; indeed, in the opening sentences of the preface of this work, the author, after reciting European opinions of its value and the fact that it has been generally adopted in improved schools in New England (where, as we have seen, Master Fowle first introduced it) and New York, says:

> In many of our common schools, however, it has been but *barely* introduced. The teacher knows almost as little how to use it as his pupils. It is vain, or nearly in vain, that our more intelligent committees, and even the secretaries of our boards of education, urge the importance of its use, from year to year, so long as no instruction is given concerning its use.
>
> It is in this view that I have prepared the following manual. It is, of course, not designed for pupils, but solely for teachers.

It is a rather curious fact that out of nineteen chapters in which the use of the board to teach all subjects is advocated, but one brief chapter, the sixteenth, is devoted to its use in teaching drawing. In this the author commends a particular system, as follows:

> No one, so far as I know, has done more to introduce plain, simple, familar drawing into our common schools and render it available in the common business and employments of life than Mr. Josiah Holbrook. About three years since he prepared a series of drawing cards, thirty-six in number; a set of which, to every teacher who wishes to call in the slate and blackboard to his aid, but who feels the want of experience to guide him in his course, would be invaluable. It may serve some purpose if I give here a brief account of these cards.[2]

These cards proceed from lines and the geometrical figures to outlines of familiar objects. The latter are recommended for the incidental information that they suggest for the teacher to enlarge on. The industrial application of the knowledge of drawing thus acquired, which is the main object of the Walter Smith and other like systems, seems never to have been apprehended by this author.

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[1] Slate and Blackboard Exercises for Common Schools, by William A. Alcott, late editor of the Annals of Education, and author of the Confessions of a Schoolmaster, &c. Messrs. Tyler & Porter, Hartford, printers.

[2] These cards are published by William Marshall & Co., of Philadelphia.

The following note by the editor gives interesting information of what was then being done in Boston. The two ladies, Mrs. E. P. Peabody and her sister, who later became Mrs. Horace Mann, seem throughout their career to have seized, with a kind of prophetic insight, upon what later events have proved to be the practical progressive steps in the evolution of public education:

The subject of the preceding chapter is now receiving much attention from the friends of public schools. In the Franklin School, Boston, instruction in this branch was given gratuitously during the winter of 1838–'39 by a lady to a class of fifty pupils with such results that it has led to its introduction into other schools. This same lady is now (1841–'42) giving instruction to a class composed of all the teachers of the primary schools, nearly one hundred in all. The details of her mode of teaching is given in A Method of Teaching Linear Drawing, published by E. P. Peabody, Boston.

The Primer of Reading and Drawing, by Mary T. Peabody, contains some excellent exercises in drawing, a few of which are appended to this volume with the permission of the author. The primer is an admirable book to assist in teaching children the first steps in reading.

If Mr. Fowle and Mr. Barnard may be thought to have considered this subject primarily from the educational point of view, there were not wanting those who approached it first from the artistic side, who, from their interest in the development of art throughout the country—both art as applied to industries and art for its own high sake—were impressed with the idea of beginning with the school children.

REMBRANDT PEALE.

The most notable and interesting instance of this endeavor to popularize art through the instrumentality of the school-house is that of the veteran artist, Rembrandt Peale, himself one of a distinguished family of artists and widely known as the artist who painted the last portrait from life of Washington.

The following account of Mr. Peale's efforts, furnished at the request of Commissioner Eaton by the late Prof. John S. Hart, who was, at the time to which it refers and long subsequently, principal of the Philadelphia high school, has never before appeared in print. It will be found to be a most interesting contribution to the history of the introduction of drawing as a required study in the public schools of the United States.

It is the record by an eye witness and wholly competent observer of the ungenerous and ignorant opposition made by school officials and others to this man of genius while engaged in his unselfish efforts to benefit his fellowmen.

This opposition of ignorant officials and their more ignorant supporters, the blind led by the blind, was finally successful in outwearing the patience and endurance of the artist who had left voluntarily the ease and seclusion of his studio to engage in this labor of love. The similar experience of Mr. Fowle, and, more recently, of Walter Smith, in the sister city of Boston, is recalled by this brief story; yet it is due to truth to remember that, while the hinderances met with, and the final defeat of the efforts made, were due to the ignorance of some educational officials, it was, on the other hand, wholly due to a few far-sighted, enterprising school officials, such as were the controllers of the Philadelphia schools in 1842, and the Boston superintendent of city schools in 1870, with several of his contemporary State educational officials of Massachusetts, acting in accord with a few public spirited private citizens, that the opportunity was severally given to Mr. Peale and to Professor Smith to make any such experiments. Those who fomented opposition to these courageous teachers of new things were also antagonistic to such liberal officials as sustained the innovations, and, in some instances, notably in the case of the distinguished city superintendent of Boston, succeeded also in eliminating the too progressive officials. Such is the everlasting history of the conflict of darkness with light.

PROFESSOR HART'S ESTIMATE OF LOSS TO PHILADELPHIA FROM REJECTION OF PEALE'S EFFORTS.

Writing, thirty years subsequent to the events just recorded, of Mr. Peale's former efforts, Professor Hart expresses his mature conviction that this ill-judged opposition has entailed a loss of many millions of dollars upon the great industrial city of Philadelphia—a statement easy to be credited by those who realize the difference in value between the results of trained over those of untrained labor, especially in all products of applied art.

The evidence given by the various experts as to the usefulness of Mr. Peale's system, which Professor Hart has attached to his letter, is very interesting both from the ability of the gentlemen and from their varied training. The veteran artist, Sully, and his two fellow artists, may be supposed to consider the subject strictly from the artist's standpoint, the Austrian officer of engineers and the American civil engineer from a technical, the locomotive builder from a practical, Professor Bache from the standpoint of pure science, while Professor Hart and his associate teachers may be supposed to look at it strictly educationally. Mr. Peale, among other pleas, urged drawing as an introduction to the study of writing, which gives significance to the presence of the writing master of the school among the experts called.

So, more than forty years ago, thirty years before the coming of Walter Smith, this striking testimony to the utility of the introduction of the study of drawing in the public schools was publicly given in Philadelphia.

LETTER OF PROFESSOR HART, AND THE EVIDENCE OF EXPERTS CONCERNING PEALE'S GRAPHICS, AS TAUGHT IN THE HIGH SCHOOL OF PHILADELPHIA IN 1840–1844.

228 South Broad Street, Philadelphia,
November 22, 1875.

Dear Sir: In reply to your inquiries respecting Rembrandt Peale, the artist, and his system of graphics as used in the Philadelphia high school, and as projected for the other public schools in this city, I take pleasure in saying what I know. The facts which I am about to give have never before been published, being gathered partly from the manuscript records of the board of education, partly from my own manuscript notes made while principal of the high school, and partly from memory.

Mr. Peale, had two ambitions, which seemed to govern his whole life. One was to paint a Washington which should be worthy of the subject and which should command the confidence of his countrymen; the other was to inaugurate a system of teaching drawing which should make it as cheap, as elementary, and as common as reading and writing. To this end he thought out a plan which was first used in the Philadelphia high school, Mr. Peale himself giving the necessary instruction, at a salary almost nominal, as compared with the value of the services of an artist of his distinction ($800 a year for three hours daily of continuous instruction). His object, however, was not to get pay for his labor, but to have the opportunity of showing the feasibleness of his scheme. The proficiency of the students of the high school in this branch was the common remark of all intelligent educators who visited the institution. Having given the method a trial of two years in the high school, Mr. Peale then offered to the controllers to superintend without charge the introduction of the system into the lower elementary schools, provided the controllers would give the necessary authorization. This generous offer met unexpectedly with a harsh rebuff from some of the members of the board. Their idea of drawing evidently was either that of the fashionable boarding school or that of the scientific engineer, something for advanced pupils only, something elaborate and costly, belonging to the highest order of schools, not to the primary school. The proposition of Mr. Peale was violently assailed, his methods were criticised, his whole scheme was denounced as that of a charlatan.

At Mr. Peale's request a committee of investigation was appointed, and the whole matter was canvassed with care, the committee not only examining for themselves the results of his system as tested in the high school, but obtaining the opinions of professional experts, educational and artistic. The result was the approval and adoption of his scheme, but not with a unanimous vote, and the opposition to the scheme on the part of the minority was so persistent and so annoying that after a few months trial his heart sickened and he gave up his darling project in despair. He also, a year or two later, resigned his position in the high school, but his system was long continued there, and with the happiest results. Mr. Peale's connection with the high school began in January, 1840, and ceased July, 1844.

The elements of Mr. Peale's system, as explained by himself, were mainly these:

(1) The eye should be trained from early childhood to recognize the elements of form, and the earlier this training of the eye begins the better for the education of all the perceptive faculties. The training of the eye to see form, and of the hand to imitate it, should go on hand in hand, the training of the eye, however, slightly preceding that of the hand.

(2) In order to learn thus to see correctly the forms of objects with the eye, and to imitate them truly and readily with the hand, we should begin with the simplest elements of form, taking but one at a time. The child should learn, for instance, first to see the direction of a straight line, and then to make another straight line in the same direction; that is, to draw a straight line parallel to another straight line. In other words, parallelism was the first thing which the eye was trained to recognize and the hand to imitate. Next, the child might be trained to see, that is, to judge by the eye, when a line is divided into equal parts, two, three, or more, and then be trained to copy what he thus sees; that is, by the hand and without mechanical aid, to divide a

line into two, three, or more equal parts. These exercises might then be extended to lines in all the various directions, horizontal, perpendicular, oblique, &c. The eye and hand having acquired the necessary accuracy and readiness in thus seeing and making simple lines, might next attend to their combinations, as constituting figures. So, step by step, the system proceeds until the most complex forms are mastered with ease.

(3) According to Mr. Peale's system, writing should be treated as a branch of drawing, writing being, in fact, only drawing the forms of the letters. Drawing, then, as a school study, should precede penmanship. The facts observed in the high school proved incontestably that those pupils who had gone through Mr. Peale's elementary course of graphics learned penmanship more rapidly and became better penmen than those who had not enjoyed this preliminary training. I have never known classes turn out such uniform examples of good penmanship as those who went through Mr. Peale's system. The boys of the Philadelphia high school were promoted in all the commercial establishments of the city for their good writing.

(4) Mr. Peale insisted much upon these two points: (*a*) the scholar should first copy patterns and afterwards copy from nature; (*b*) he should first learn free, off-hand drawing, afterwards mechanical drawing.

(5) The elementary training of the eye and hand in early youth is of incalculable value as a preparation for every kind of mechanical pursuit. Mr. Peale's idea was that the elementary drawing book (graphics, he called it) should be as cheap as the spelling book, and should be studied at the same time. A mechanic who is thus from childhood familiar with his pencil, and who can sketch the form he sees, or invent new forms as readily as he can read and write, is more productive as a laborer, and always commands a higher price than one who has not this skill. Could Mr. Peale's idea have been realized in a great mechanical and manufacturing city like Philadelphia, I have no doubt it would have added millions annually to the productiveness of its artisans. Thirty years ago I expressed the belief, and I am willing still to abide by the record, that such a system as Mr. Peale's, fully and fairly carried out, would have been worth more to the city pecuniarily than the entire cost of her system of public schools.

The testimony of the experts who were invited by the controllers to express their opinion of Mr. Peale's system is worthy of record. I give it entire. The gentlemen examined were Mr. Sully, the well known artist; Captain Moering, of the Austrian military engineer corps, who was then spending the winter in Philadelphia; Mr. Morris, an eminent civil engineer; Mr. Samuel V. Merrick, the great locomotive builder; Mr. Towne, partner of Mr. Merrick, and lately founder of the Towne School of Science; Mr. McMurtrie, artist; Professor Kendall, teacher of perspective in the school; Professor Frazer, teacher of mechanics; Professor Becker, teacher of writing; Professor Frost, teacher of composition; Professor Hart, principal of the school; and Professor Bache, formerly principal of the school, afterwards Superintendent of the United States Coast Survey.

I am, very respectfully, yours,

JOHN S. HART.

General JOHN EATON,
Commissioner of Education, Bureau of Education,
Department of the Interior, Washington, D. C.

OPINION OF MR. SULLY.

(1) Should instruction in drawing commence with drawing by the eye or with instruments? — It should by all means commence with drawing by the eye.

(2) Should instruction in drawing commence with perspective and drawing from models or with drawing from patterns? — The pupil should copy patterns first, and models afterwards.

(3) In learning to draw from patterns should a beginner commence with complex forms, or with straight lines and simple geometrical figures? — The pupil should begin with straight lines and simple forms first, and afterwards go on to those more complex. To begin with complex forms or with models is to attack all the difficulties of drawing at once. It is like attempting to read before knowing the alphabet, or to run before knowing how to walk.

(4) What are the things chiefly aimed at in learning to draw? — Accurate perception of the true forms of objects and skill of hand in imitating what is seen.

(5) Is the progression of exercises as given in Peale's Graphics adapted to facilitate the pupil in acquiring this accuracy of eye and freedom of hand? — More so than anything that I have ever seen.

(6) Does the practice of enlarging and diminishing drawings, as recommended by Mr. Peale, give any facility in training the eye and hand? — It does. No one who has not tried it is aware of its importance in this respect.

(7) Does the subsequent practice of drawing in perspective from models facilitate in training the eye and hand? — Undoubtedly. It completes the training already commenced by copying from patterns.

(8) Would this training of the eye and hand be gained with as much ease and certainty by beginning to draw from models before copying patterns? — I should think not.

(9) Can this training of the eye and hand be gained with as much ease and certainty by beginning to draw from models before copying patterns? — It cannot.

(10) Is a person who begins to learn to draw with instruments likely to acquire habits of eye and hand that will impede his progress in becoming an expert draughtsman? — The eye becomes accustomed to rely entirely upon the measurement of rule and compass and the hand becomes stiff and mechanical in its movements. It is with the utmost difficulty that these habits, when once contracted, can be shaken off.

(11) Does a person who has learned to draw by the eye alone experience any facility in learning to draw afterwards by instruments? — The person who has acquired accuracy of eye and the free use of the hand can use instruments with much greater dexterity than if he had not enjoyed this previous training. In fact, perfection in the use of instruments cannot easily be acquired without previous training of the eye and hand.

(12) Does learning to draw by the eye give any facility in learning to write? — I have never seen the experiment tried, but cannot see how it could be otherwise, as writing is only one form of drawing.

(13) What is your opinion of the propriety of connecting drawing and writing? — I think it an admirable plan.

(14) Would it be of advantage to every young person, whatever his intended occupation, to learn to draw? — Without doubt.

(15) Is the time given in the high school to this department (less than two hours a week) sufficient to extend the course of instruction advantageously to any other branches of drawing than pencil drawing from patterns and models? — I should think not.

(16) If a boy learn pencil drawing from patterns and models in the manner proposed by Mr. Peale can he, without difficulty, after leaving school, learn its application to the various mechanic arts? — With the greatest ease.

(17) Do the specimens herewith submitted evince any proficiency in off-hand drawing? — I think the lines are drawn with remarkable correctness and truth. Indeed, I am surprised, not with their finish (for they are unfinished), but with the freedom and skill of hand and the accuracy of eye which they evince on the part of those who have given so little time to the subject.

(18) Could these specimens have been executed by persons ignorant of the principles of drawing? — Unquestionably not.

(19) Could they have been executed with equal facility and accuracy without previous training of the eye and hand in drawing from patterns? — They could not.

(20) If the boys who executed these specimens continue to receive two lessons a week for a year to come will they by the end of that time probably have become so far proficient in pencil drawing as to be able to apply it to the various arts of life? — I think they will.

(21) Wherein does Mr. Peale's system differ from the system generally practised? — Not so much in its principles, although it contains some new and important principles, as in the simplicity of its arrangements and the perfection of its details.

OPINION OF CAPTAIN MOERING.

(1) Should instruction in drawing commence with drawing by the eye or with instruments? — By the eye.

(2) Should instruction in drawing commence with perspective and drawing from models or with drawing from patterns? — From patterns, as the lines represent definite forms, and can be understood by the eye; this may seize the outlines of models, marked by shade and light, when more experienced and practised.

(3) In learning to draw from patterns should a beginner commence with complex forms or with straight lines and simple geometrical curves? — With straight lines.

(4) What are the things chiefly aimed at in learning to draw? — Accuracy of eye and freedom of hand. And why shackle a natural disposition for drawing by ruler and compass? Leonardo da Vinci only in after life became acquainted with the science of drawing after having practised it by intuition all the time before this period, and so have all the painters; in particular, Giotto and Correggio.

(5) Is the progression of exercises, as given in Peale's Graphics, adapted to facilitate the pupil in acquiring this accuracy of eye and freedom of hand? — It is.

(6) Does the practice of enlarging and diminishing drawings, as recommended by Mr. Peale, give any facility in training the eye and hand? — It does.

(7) Does the subsequent practice of drawing in perspective from models facilitate in training the eye and hand? — It does.

(8) Would this training of the eye and hand be gained with as much ease and certainty by beginning to draw from models before copying patterns? — It would not.

(9) Can this training of the eye and hand be acquired by drawing with instruments alone? — It cannot.

(10) Is a person who begins to draw with instruments likely to acquire habits of eye and hand that will impede his progress in becoming an expert draughtsman? — He will be certain to acquire a stiff, cramped hand.

(11) Does a person who has learned to draw by the eye alone experience any facility in afterwards drawing with instruments? — A person who has first learned to draw by the eye can comprehend and acquire the use of instruments with tenfold the advantage of one who has not had this previous training. Even in linear drawing of architecture a practised eye can discover the ease of the off-hand draughtsman or the angular and rigid manner of the drawer by instruments.

(12) Does learning to draw by the eye give any facility in learning to write? — Undoubtedly. It assists one in drawing the form of any object, and writing is only drawing the forms of letters.

(13) What is your opinion of the propriety of connecting drawing and writing? — In my country writing precedes drawing, and they sometimes go on together. But I have long been of the opinion that writing is very much injured by being taught before the pupil acquires that freedom of hand which is to be got only by off-hand drawing. In learning to write a boy is confined to small forms and his hand inevitably becomes cramped. Whereas, if a boy first acquires freedom and skill of hand, he can, at will, apply it to all forms, large or small.

(14) Does learning to draw by the eye facilitate materially any other branch of

nstruction? — I think it facilitates the study of geography and of all geometrical studies. A good eye is essential to the memory of geography and topography.

(15) Does learning to draw by the eye facilitate any of the mechanic arts? — Undoubtedly. It enables the artisan to design new patterns, &c., to catch more readily those designed by others, and to shadow forth again what he has seen.

(16) Would it be of advantage to every young person, whatever his intended occupation, to learn to draw? — Unquestionably.

(17) Is the time given in the high school to this department (less than two hours a week) sufficient to extend the course of instruction advantageously to any other branches of drawing than pencil drawing from patterns and models? — I should think not. I do not see how the pupils have made the proficiency which they have made in the limited time afforded. In the school in which I was educated we all drew two hours a day for three years at off-hand drawing (the Imperial Academy of Engineers at Vienna).

(18) If a boy learn pencil drawing from patterns and models in the manner proposed by Mr. Peale, can he, without difficulty, after leaving school learn its application to the various mechanic arts? — He can.

(19) Do the specimens herewith submitted evince any proficiency in off-hand drawing? — They exhibit very surprising proficiency for the time given to the subject.

(20) Could these specimens have been executed by persons ignorant of the principles of drawing? — They could not.

(21) Could they have been executed with equal facility and accuracy without previous training of the eye and hand in drawing from patterns? — They could not.

(22) If the boys who executed these specimens continue to receive two lessons a week for a year to come, will they, by the end of that time, probably have become so far proficient in pencil drawing as to be able to apply it to the various arts of life? — I should think they would. Indeed, I have no doubt of it.

(23) In what manner did you yourself learn drawing? — In the school in which I was educated (the Imperial Academy of Engineers of Vienna) we first copied from patterns, beginning with straight lines and simple geometrical forms, and going on to those which were more complicated and difficult till we had acquired entire freedom of hand and accuracy of eye in seeing and delineating the outlines of objects. We then drew from models, and were instructed in drawing perspectively off-hand. When we had become expert in this, after the third year, we studied the theory and practice of geometrical perspective.

(24) What opportunities have you had for knowing the manner in which drawing is generally taught? — I know the manner in which it is taught in Austria, in Germany, and Italy, and it is very similar to the one taught by Mr. Peale; nay, I should call his method an improvement the introduction of which would be desirable in our schools.

(25) What is the method in which drawing is generally taught? — It is everywhere taught in the manner I have described. First, by copying patterns; secondly, by drawing from models; and, lastly, by the use of instruments in its application to military and civil engineering, fortification, architecture, topography, carpentry, machine drawing, &c.

(26) Wherein does Mr. Peale's system differ from the system generally practised? — Chiefly in the simplicity and perfection of its details.

(27) Is the theory and practice of geometric perspective generally considered as belonging to the department of drawing or to that of mathematics? — It is always considered a branch of mathematics, and taught by the mathematical professor and not by the professor of drawing.

(28) Does geometric perspective generally precede or follow drawing by the eye and hand? — Boys who study drawing are generally, and may be always, expert off-hand

draughtsmen before they are of sufficient age or have made sufficient progress in mathematical studies to be able to understand the theory of geometric perspective.

(29) Should machine drawing be considered as the basis of all drawing, or as a mere application of general principles? — Machine drawing is only one of the numerous applications of the art of drawing.

OPINION OF MR. MORRIS.

(1) Should instruction in drawing commence with drawing by the eye or with instruments?—By all means by the eye.

(2) Should instruction in drawing commence with perspective and drawing from models or with drawing from patterns?—I should think it better to begin with copying patterns.

(3) In learning to draw from patterns should a beginner commence with complex forms or with straight lines and simple geometrical curves?—The learner should begin with straight lines; then learn to draw the outline of various plane surfaces, squares, triangles, circles, &c., afterwards more complex forms, such as are usually given in drawing books and patterns, and, lastly, draw from models.

(4) What are the things chiefly aimed at in learning to draw?—The most important, in fact indispensable, acquirements for the draughtsman are to be able to judge accurately by the eye of the forms of objects and to command the hand with freedom and ease.

(5) Is the progression of exercises, as given in Peale's Graphics, adapted to facilitate the pupil in acquiring this accuracy of eye and freedom of hand?—I think Mr. Peale's book well calculated to secure these important objects.

(6) Does the practice of enlarging and diminishing drawings, as recommended by Mr. Peale, give any facility in training the eye and hand?—It does.

(7) Does the subsequent practice of drawing in perspective from models facilitate in training the eye and hand?—It does. Indeed, drawing from models is all important after the pupil has gained a certain stage of progress in the art. But it should not be attempted too soon; not till after the eye and hand are partially trained by copying from patterns.

(8) Would this training of the eye and hand be gained with as much ease and certainty by beginning to draw from models before copying from patterns?—It would not.

(9) Can this training of the eye and hand be acquired by drawing with instruments alone?—It cannot, as I have found to my cost. Fourteen years ago, when I entered the office of Mr. Strickland as a student of architecture, I had a fellow student who entered at the same time with me and enjoyed in all respects the same advantages, and we went through the same course of studies, making all sorts and almost any quantity of architectural drawings. But there was, and there is, about his work a freedom and finish which I could never reach, and which I always attributed to the fact that he had learned off-hand drawing before sitting down to rule and compasses.

(10) Is a person who begins to learn to draw with instruments likely to acquire habits of eye and hand that will impede his progress in becoming an expert draughtsman?—He is. I experience difficulties every day in consequence of not having commenced drawing in this way.

(11) Does a person who has learned to draw by the eye alone experience any facility in afterwards drawing with instruments?—He does, as is shown by the instance I have already given.

(12) Does learning to draw by the eye give any facility in learning to write?—I think it does.

(13) What is your opinion of the propriety of connecting drawing and writing?—I think they might be connected with great advantage. I have long considered writing as only one form of drawing.

(14) Does learning to draw by the eye facilitate any of the mechanic arts?—I think there is no mechanic or artisan who would not be benefited by learning to draw.

(15) Would it be of advantage to every young person, whatever his intended occupation, to learn to draw?—It would.

(16) Is the time given in the high school to this department (less than two hours a week) sufficient to extend the course of instruction advantageously to any other branch of drawing than pencil drawings from patterns and models?—I should think the time specified quite little enough to teach well pencil drawing from patterns and models.

(17) If a boy learn pencil drawing from patterns and models in the manner proposed by Mr. Peale, can he, without difficulty, after leaving school, learn its application to the various mechanic arts?—He can.

(18) Do the specimens herewith submitted evince any proficiency in off-hand drawing?—They do, most decidedly.

(19) Could these specimens have been executed by persons ignorant of the principles of drawing?—They could not.

(20) Could they have been executed with equal facility and accuracy without previous training of the eye and hand in drawing from patterns?—They could not.

(21) If the boys who executed these specimens continue to receive two lessons a week for a year to come, will they, by the end of that time, probably have become so far proficient in pencil drawing as to be able to apply it to the various arts of life?—I think so, judging of what they will do by what they have done.

(22) In what manner did you yourself learn drawing?—I commenced drawing with instruments, and have never got over the bad effects of it.

OPINION OF MR. MERRICK.

(1) Should instruction in drawing commence with drawing by the eye or with instruments?—By the eye.

(2) Should instruction in drawing commence with perspective and drawing from models or with drawing from patterns?—From patterns.

(3) In learning to draw from patterns should a beginner commence with complex forms or with straight lines and geometrical curves?—The pupil, of course, should begin with straight lines and the simplest forms.

(4) What are the things chiefly aimed at in learning to draw?—First, to acquire the habit of seeing correctly, and, secondly, to get expertness of hand in copying what you see.

(5) Is the progression of exercises, as given in Peale's Graphics, adapted to facilitate the pupil in acquiring this accuracy of eye and freedom of hand?—I think it is; it struck me so when it was first published, and I have heard a great many others express the same opinion.

(6) Does the practice of enlarging and diminishing drawings, as recommended by Mr. Peale, give any facility in training the eye and hand?—It does.

(7) Does the subsequent practice of drawing in perspective from models facilitate in training the eye and hand?—Unquestionably.

(8) Would this training of the eye and hand be gained with as much ease and certainty by beginning to draw from models before copying patterns?—I think not.

(9) Can this training of the eye and hand be acquired by drawing with instruments alone?—Certainly not.

(10) Is a person who begins to draw with instruments likely to acquire habits of eye and hand that will impede his progress in becoming an expert draughtsman?—He is.

(11) Does a person who has learned to draw by the eye alone experience any facility in afterwards drawing with instruments?—Unquestionably.

(12) Does learning to draw by the eye give any facility in learning to write?—It does.

(13) What is your opinion of the propriety of connecting drawing and writing?—I think they may be connected with the greatest advantage.

(15) Does learning to draw by the eye facilitate any of the mechanic arts?—In my own business it is of incalculable importance. It is to me a matter of the deepest regret that I did not myself learn to draw when young. I feel its importance every day in my own business, and see it in that of others.

(16) Would it be of advantage to every young person, whatever his intended occupation, to learn to draw?—Unquestionably.

(17) Is the time given in the high school to this department (less than two hours a week) sufficient to extend the course of instruction advantageously to any other branches of drawing than pencil drawing from patterns and models?—I think it is not; but this system ought, in my opinion, to be commenced in the primary schools, so that these pupils may be prepared to receive higher instruction in the high school.

(18) If a boy learn pencil drawing from patterns and models in the manner proposed by Mr. Peale, can he, without difficulty after leaving school, learn its application to the various mechanic arts?—Certainly.

(19) Do the specimens herewith submitted evince any proficiency in off-hand drawing?—I think they exhibit very great proficiency.

(20) Could these specimens have been executed by persons ignorant of the principles of drawing?—They could not.

(21) Could they have been executed with equal facility and accuracy without previous training of the eye and hand in drawing from patterns?—They could not.

(22) If the boys who executed these specimens continue to receive two lessons a week for a year to come will they, by the end of that time, probably have become so far proficient in pencil drawing as to be able to apply it to the various arts of life?—I should think they would, certainly.

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(29) Should machine drawing be considered as the basis of all drawing or a mere application of general principles?—Machine drawing is a mere application of the general principles of drawing.

OPINION OF MR. TOWNE.

(1) Should instruction in drawing commence with drawing by the eye or with instruments?—It should commence with drawing by the eye.

(2) Should instruction in drawing commence with perspective and drawing from models or with drawing from patterns?—It should commence with drawing from patterns; to begin at once with models would be too difficult.

(3) In learning to draw from patterns should a beginner commence with complex forms or with straight lines and simple geometrical curves?—To attain facility in drawing it is necessary to go step by step. Therefore I should say by all means begin with straight lines and simple forms and take the more complex afterwards.

(4) What are the things chiefly aimed at in learning to draw?—Freedom of hand and accuracy of eye. When a person has acquired these he has acquired everything almost that is necessary to draw well.

(5) Is the progression of exercises, as given in Peale's Graphics adapted to facilitate the pupil in acquiring this accuracy of eye and freedom of hand?—I think it is. I have experienced benefit from it myself.

(6) Does the practice of enlarging and diminishing drawings, as recommended by Mr. Peale, give any facility in training the eye and hand?—I have no doubt it does. In my estimation this kind of practice is exceedingly advantageous.

(7) Does the subsequent practice of drawing in perspective from models facilitate in training the eye and hand?—It does.

(8) Would this training of the eye hand and be gained with as much ease and certainty by beginning to draw from models before copying patterns?—I think not. If not absolutely essential, it would at least be highly useful to train both the eye and

the hand by previously drawing from patterns. It would be attempting too much at once to proceed to the models at first, and the pupil having an untutored eye, a hand unskilful and under imperfect control, would probably be discouraged by difficulties at the outset, whereas had he previously acquired some skill and practice by copying drawings, his progress would be facilitated and his success rendered more speedy and certain.

(9) Can this training of the eye and hand be acquired by drawing with instruments alone? — Certainly not. On the contrary, the use of instruments cramps the hand, and, by leading the eye to trust to measurement alone, its proper cultivation is entirely neglected.

(10) Is a person who begins to learn to draw with instruments likely to acquire habits of eye and hand that will impede his progress in becoming an expert draughtsman? — Certainly he is. I do not think it probable that any person ever becomes a perfect and finished draughtsman who begins by drawing with instruments.

(11) Does a person who has learned to draw by the eye alone experience any facility in afterwards drawing with instruments? — Very great.

(12) Does learning to draw by the eye give any facility in learning to write? — As writing is only one form of drawing, learning to draw by the eye and hand must faciliitate learning to write.

(13) What is your opinion of the propriety of connecting drawing and writing? — I think they might be connected with great advantage.

(14) Does learning to draw by the eye facilitate any of the mechanic arts? — In some arts it is indispensable, and it would be highly advantageous to all.

(15) Would it be of advantage to every young person, whatever his intended occupation, to learn to draw? — I think there can be no doubt of it.

(16) Is the time given in the high school to this department (less than two hours a week) sufficient to extend the course of instruction advantageously to any other branches of drawing than pencil drawing from patterns and models? — I think not.

(17) If a boy learn pencil drawing from patterns and models in the manner proposed by Mr. Peale, can he, without difficulty, after leaving school, learn its application to the various mechanic arts? — He can.

(18) Do the specimens herewith presented evince any proficiency in off-hand drawing? — They do.

(19) Could these specimens have been executed by persons ignorant of the principles of drawing? — They could not.

(20) Could they have been executed with equal facility and accuracy without previous training of the eye and hand in drawing from patterns? — They could not.

(21) If the boys who executed these specimens continue to receive two lessons a week for a year to come, will they by the end of that time probably have become so far proficient in pencil drawing as to be able to apply it to the various arts of life? — I think they will.

* * * * * * *

(29) Should machine drawing be considered as the basis of all drawing, or a mere application of general principles? — Machine drawing is only one of the many applications of the general principles of drawing.

OPINION OF MR. M'MURTRIE.

(1) Should instruction in drawing commence with drawing by the eye or with instruments? — With drawing by the eye.

(2) Should instruction in drawing commence with perspective and drawing from models or with drawing from patterns? — With drawing from patterns.

(3) In learning to draw from patterns should a beginner commence with complex forms or with straight lines and simple geometrical curves? — With straight lines.

(4) What are the things chiefly aimed at in learning to draw? — Accuracy of eye and freedom of hand.

(5) Is the progression of exercises as given in Peale's Graphics adapted to facilitate the pupil in acquiring this accuracy of eye and freedom of hand? — It is. As such I have recommended it to all my acquaintance ever since its publication.

(6) Does the practice of enlarging and diminishing drawings, as recommended by Mr. Peale, give any facility in training the eye and hand? — It does.

(7) Does the subsequent practice of drawing in perspective from models facilitate in training the eye and hand? — It does.

(8) Would this training of the eye and hand be gained with as much ease and certainty by beginning to draw from models before copying patterns? — It would not.

(9) Can this training of the eye and hand be acquired by drawing with instruments alone? — It cannot.

(10) Is a person who begins to learn to draw with instruments likely to acquire habits of eye and hand that will impede his practice in becoming an expert draughtsman? — He will be apt to become stiff and cramped.

(11) Does a person who has learned to draw by the eye alone experience any facility in afterwards drawing with instruments? — Most decidedly.

(12) Does learning to draw by the eye give any facility in learning to write? — It does.

(13) What is your opinion of the propriety of connecting drawing and writing? — I think very well of it.

(14) Does learning to draw by the eye facilitate any of the mechanic arts? — It does. I have seen it stated in a report of the British House of Commons that the reason the French excel the English in the manufacturing of fancy articles is that in France nearly all the workmen are taught off-hand drawing and are able to design new and original patterns.

(15) Would it be of advantage to every young person, whatever his intended occupation, to learn to draw? — It would.

(16) Is the time given in the high school to this department (less than two hours a week) sufficient to extend the course of instruction advantageously to any other branches of drawing than pencil drawing from patterns and models? — I should think not, unless pupils are taught the elements of drawing in the lower schools before coming to the high school.

(17) If a boy learn pencil drawing from patterns and models in the manner proposed by Mr. Peale, can he, without difficulty, after leaving school, learn its application to the various mechanic arts? — Most decidedly.

(18) Do the specimens herewith submitted evince any proficiency in off-hand drawing? — Undoubtedly.

(19) Could these specimens have been executed by persons ignorant of the principles of drawing? — They could not.

(20) Could they have been executed with equal facility and accuracy without previous training of the eye and hand in drawing from patterns? — They could not.

(21) If the boys who executed these specimens continue to receive two lessons a week for a year to come, will they, by the end of that time, probably have become so far proficient in pencil drawing as to be able to apply it to the various arts of life? — I think they would.

Following are the opinions of various professors in the high school:

OPINION OF MR. KENDALL.

(1) In teaching the theory of perspective, do you experience any facility from the class having previously learned off-hand drawing from Mr. Peale? — Very great. They understand more readily and retain more accurately the demonstrations which are given, and are able to execute the drawings with the instruments with greater freedom and finish.

OPINION OF MR. VOODES.

(1) Did you teach geometry and trigonometry before Mr. Peale's appointment to the high school?—I did.

(2) Do you experience any decided facility in teaching these and kindred branches since his appointment and in consequence of his instructions?—I do. The boys are much more expert in drawing mathematical figures on the board and seem to understand them more perfectly when drawn.

OPINION OF MR. FRAZER.

(1) Do you experience any facility in teaching mechanics in the high school in consequence of Mr. Peale's instructions?—I have not been long in the school and do not know to what cause to attribute it, but I have certainly found the classes that come to me (A and B) manifest a readiness in comprehending and an expertness in executing complicated and difficult diagrams that I have never seen in a class elsewhere. And this readiness facilitates very much their progress in the branches which they study with me.

OPINION OF MR. BECKER.

(1) Have you taught writing elsewhere than in the high school? — I have.

(2) Have you experienced any facility in teaching writing at the high school in consequence of Mr. Peale's instructions in drawing? — Very great.

(3) Do the pupils learn more readily than pupils in other schools who have not learned to draw? — They do.

(4) When you first commenced teaching writing in the high school did you find any difference in the improvement of the classes that you taught? — I did.

(5) Which classes improved most under your instruction, those which had been longest under Mr. Peale or those which had been least time with him? — Those who had been longest with Mr. Peale made five times the improvement of the others.

(6) Was this difference very striking? — It was.

(7) Did it occasion comment at the time? — It did.

(8) When the classes had all been under your instructions one term, what proportion of Division A who had been longest with Mr. Peale executed specimens of writing that were deemed worthy of being exhibited at the examination? — Four-fifths.

(9) What proportion of those who had been the least time with Mr. Peale had specimens worthy of being shown at the examination? — One-twentieth.

(10) Do you find generally that the longer a class has been with Mr. Peale the more rapid is its progress? — I do.

(11) Have you modified in any respect your method of teaching writing in consequence of suggestions from Mr Peale? — I have changed almost my whole manner of teaching writing in consequence of Mr. Peale's suggestions and find the greatest benefit from it. I could not have taught the pupils of the high school with the same success but for Mr. Peale's assistance and suggestions.

OPINION OF MR. FROST.

(1) Do the written exercises in composition of all the boys pass through your hands?—They do.

(2) What was the general character of the writing in the school previous to Mr. Peale's appointment?—It was miserably bad; the compositions were hardly legible.

(3) After Mr. Peale's appointment and before Mr. Becker's did you perceive any difference in the writing?—I did perceive the most marked difference. The improvement was immediate and general and has been steadily increasing every time since.

(4) Was this improvement noticed by you at the time?—It was.

(5) Was writing specifically taught in the school at the time this improvement took place?—It was not.

(6) To what, then, do you attribute the change?—To the instructions which the boys received from Mr. Peale, which enabled them to do well anything which required ease and freedom of hand.

(7) Have you, in your own private school and elsewhere, had pupils in classes under the care of a writing master?—I have.

(8) Do you think the classes under Mr. Becker improve more, for the time which they have, than classes which you have seen elsewhere?—I do.

OPINION OF MR. HART (PRINCIPAL OF THE SCHOOL).

(1) Have you ever, in private schools, seen writing taught?—I have.

(2) Do you observe in the classes in the high school under Mr. Becker more rapid improvement in writing than classes elsewhere who were not instructed in off-hand drawing?—I do. In the school of which I was the principal in Princeton [the Edgehill School], 40 boys two hours a day with Mr. Becker's partner made less progress in writing than the 360 boys of the high school now do, Mr. Becker giving only 13 hours a week to the whole of them.

(3) How does the writing of the boys in the high school compare with that of boys in schools elsewhere?—I have never seen a school in which the mass of the writing was as good as it is here. When I was first introduced into the school I was at a loss to account for this excellence, having never before seen writing and drawing connected, knowing how little time is given in the school to writing by itself, and knowing also that the specimens of their writing, when they are examined for admission, are generally very poor.

(4) What degree of attention is paid to writing in other schools with which you are acquainted?—In my own school at Princeton, which consisted of boys in about the same stage of progress as the boys of the high school, one hour a day was given to writing by all the pupils at an expense of $200 for every 40 boys, or, in other words, $5 per annum for each pupil.

(5) Is Mr. Peale regular in the discharge of his duties at the high school?—I have never seen a young man of twenty more punctual, zealous, patient, and laborious. I have often wondered to see a man of his distinction as an artist as well as of his advanced age making such exertions and submitting to such vexations as are necessarily incident upon his situation in the school.

OPINION OF MR. BACHE (FORMER PRINCIPAL).

(1) Should instruction in drawing commence with drawing by the eye or with instruments?—Both theory and experience show that instruction should begin by drawing by the eye.

(2) Should instruction in drawing commence with perspective and drawing from models or with drawing from patterns?—The difficulties of the beginner are increased by putting models before him at the outset.

(3) In learning to draw from patterns should a beginner commence with complex forms or with straight lines and simple geometrical curves?—Certainly by beginning with straight lines and simple curves.

(4) What are the things chiefly aimed at in learning to draw?—To train the eye to the accurate appreciation of forms and the hand to the accurate and ready imitation of them.

(5) Is the progression of exercises as given in Peale's Graphics adapted to facilitate the pupil in acquiring this accuracy of eye and freedom of hand?—The progression of exercises appears to have been very carefully studied; the details have a perfection which I have not seen in other systems.

(6) Does the practice of enlarging and diminishing drawings, as recommended by Mr. Peale, give any facility in training the eye and hand?—It is one of the strong points in Mr. Peale's course.

(7) Does the subsequent practice of drawing in perspective from models facilitate in training the eye and hand? — It is essential to a complete course; when the eye and hand are trained, the difficulties of perspective may be easily overcome.

(8) Would this training of the eye and hand be gained with as much ease and certainty by beginning to draw from models before copying patterns? — The more philosophical mode appears to be to begin by drawing first from patterns.

(9) Can this training of the eye and hand be acquired by drawing with instruments alone? — It cannot. On the contrary, the reliance which it begets upon the scale and dividers and the ruler and triangle is a disadvantage in the subsequent attempts to acquire facility in drawing by the eye and without instruments.

(10) Is a person who begins to draw with instruments likely to acquire habits of eye and hand that will impede his progress in becoming an expert draughtsman? — He is, for the reason just stated. The fact is proved by experience.

(11) Does a person who has learned to draw by the eye alone experience any facility in afterwards drawing with instruments? — Undoubtedly, great facility.

(12) Does learning to draw by the eye give any facility in learning to write? — The principles of form and proportion involved in writing and drawing are the same. The influence of a knowledge of drawing upon facility in acquiring a good handwriting is generally acknowledged by those who have examined the subject.

(13) What is your opinion of the propriety of connecting writing and drawing? — Writing is an application of the general principles of drawing, requiring merely a peculiar practice of hand, in addition to readiness in recognizing and imitating forms.

(14) What opportunities have you had of observing the manner of teaching writing elsewhere? — I have examined closely the modes of teaching in the best schools at home and abroad.

(15) What was the result of your observation? — That where writing was connected with drawing, as it is imperfectly in the system of Pestalozzi, the best results were produced. To shorten the time of teaching writing in some of the schools which I visited in Europe, the pupils were made to begin with small hand, and with the worst results. The eye is not trained to judge of forms on a proper scale, small imperfections escaping detection in small letters. Neither is the hand trained to freedom of action. It would require much space to bring out satisfactorily the results of my observation upon this point, but as far as they bear upon the subject in hand I have given them in the first lines of my statement. These opinions were formed before I was particularly acquainted with Mr. Peale or his system of graphics.

(16) Is Mr. Peale's method of connecting drawing and writing a discovery in the science of education? — I have no doubt that the idea originated with Mr. Peale, but it had before been promulgated by Pestalozzi.

(17) What was the opinion of Pestalozzi in regard to this subject? — Language, number, and form were the three great divisions under which Pestalozzi endeavored to group elementary knowledge. Drawing and writing were necessarily classed together in his system.

(18) What weight is due to the opinion of Pestalozzi? — Very great. He is one of the highest authorities in matters of education.

(19) Does learning to draw by the eye facilitate materially any other branch of instruction? — Many; geography, especially, among the elementary branches; mathematics and its application; mechanics and natural philosophy; chemistry; natural history.

(20) Does learning to draw by the eye facilitate any of the mechanic arts? — The superiority of particular nations in certain branches of the mechanic arts has been traced to their superiority in the art of drawing. It is a tool of universal application.

(21) Would it be of advantage to every young person, whatever his intended occupation, to learn to draw? — I think that it would. The improvement of the senses

should be one of the objects of education. To recognize, to judge of, and to imitate forms, is a source of pleasure and often of profit.

(22) Is the time given in the high school to this department (less than two hours a week) sufficient to extend the course of instruction advantageously to any other branches of drawing than pencil drawing from patterns and models?—I doubt whether it is, but the experience upon this point is not yet sufficient to decide the question. If the pupil came to the school with a knowledge of the elements of drawing, its applications would form the fitting subjects of the high school course.

(23) If a boy learn pencil drawing from patterns and models in the manner proposed by Mr. Peale, can he without difficulty after leaving school learn its application to the various mechanic arts?—Certainly.

(24) Do the specimens herewith submitted evince any proficiency in off-hand drawing?—Remarkable proficiency for the time during which the pupils have been under instruction.

(25) Could these specimens have been executed by persons ignorant of the principles of drawing?—They could not.

(26) Could they have been executed with equal facility and accuracy without previous training of the eye and hand in drawing from patterns?—Certainly not. The pupils have not had to think of the mode of making the lines, but only of their directions and proportions.

(27) If the boys who executed these specimens continue to receive two lessons a week for a year to come, will they by the end of that time probably have become so far proficient in pencil drawing as to be able to apply it to the various arts of life?—Undoubtedly.

(28) In what manner did you, yourself, learn drawing?—I was instructed at West Point. We drew from patterns. The difficulties which I encountered from the want of such instruction as Mr. Peale gives are fresh in my recollection.

(29) What opportunities have you had for knowing the manner in which drawing is taught generally?—The opportunity of examining many schools at home and abroad.

(30) What is the method in which drawing is generally taught?—In a subject so generally taught by so many persons and for so long a time, the methods are, of course, various. The prevailing mode is by drawing from patterns, especially in schools where drawing is intended as a branch of general education.

(31) Wherein does Mr. Peale's system differ from the system generally practised?—In the clear statement of principles, the careful establishment of the elementary basis, and the gradually progressive steps. I have remarked that the different improvements which I saw abroad had been recognized by Mr. Peale in his study of the subject and were to be found in his Graphics.

(32) Is the theory and practice of geometric perspective generally considered as belonging to the department of drawing or to that of mathematics?—Always to the department of mathematics.

(33) Does geometric perspective generally precede or follow drawing by the eye and hand?—The practice varies, but from a comparison of the results, I am satisfied that elementary drawing should come first.

(34) Should machine drawing be considered as the basis of all drawing, or a mere application of general principles?—Merely an application of the general principles of drawing.

(35) What is your opinion of the assiduity and fidelity of Mr. Peale as an instructor?—I have never seen a more assiduous or more faithful instructor than Mr. Peale.

(36) Do men who are advanced in life before beginning to teach easily change their habits and acquire readily skill in teaching?—Such examples of success are very rare.

(37) Do artists and men of genius readily submit to the confinement and vexations incident upon teaching mixed classes?—Seldom.

(38) Did you, while principal of the school, observe in Mr. Peale anything worthy of remark in this respect? — Mr. Peale's system embodying the best features of the various methods I had examined, I was anxious to have it introduced into the high school, supposing that Mr. Peale would be able to train up some one to teach the system. I certainly thought that the difficulties of teaching large classes and of their discipline and the never ending petty vexations of the school room would finally disgust an artist of warm temperament who encountered them late in life. I did not suppose that the zeal of the inventor would be proof against the drudgery of putting the details of his system into every-day operation. I consider Mr. Peale's success as a most remarkable circumstance — due to a steadiness of purpose, closeness of observation, and scrupulous fidelity of character which very few men possess.

(39) Did you, while principal of the school, observe any benefit in other departments derived from the instruction in Mr. Peale's department? — The writing of the pupils when I took charge of the high school was very bad. Soon after the introduction of Mr. Peale as a teacher, my attention was called to a manifest improvement in the handwriting, as shown in the exercises in the belles lettres department. I caused a set of written exercises to be marked and compared with the marks for penmanship of the same persons just after admission to the school. There was a decided gain. This was before direct instruction had been given in writing. The time came when from the increase in the number of pupils it was necessary to provide an assistant to Mr. Peale, and Mr. Becker was introduced. In six months twenty boys out of twenty-five in the first division produced good specimens of penmanship, while but three out of sixty in the lowest division produced results worthy of exhibition. The divisions had been nearly the same number of hours under Mr. Becker's charge, but the training under Mr. Peale had given the elder ones the accuracy of eye and readiness of hand necessary for writing. The drawing of figures in the mathematical department was much improved, and the style of the school records totally changed. For business purposes the education of these boys is increased very much in value by the course of drawing and writing.

(40) Have you ever heard from artists, and men of other professions qualified to judge, any expression of opinion in regard to Mr. Peale's system? — Frequently; I have heard artists, mechanics, engineers, and others well qualified to judge, speak of Mr. Peale's system in very high terms.

The following is the formal report made by these gentlemen to the committee of the controllers:

To the committee appointed by the controllers of the public schools of the first district of Pennsylvania to investigate the merits of Professor Peale's system of graphics:

From an examination of the drawings by the scholars of the high school which we have made at your request, we are satisfied with the efficacy of Professor Peale's course of instruction, as developed in his publication entitled "Graphics," which, commencing with simple and regular lines, advances gradually into the more complex and irregular, so as to render every known principle in elementary drawing intelligible to the attentive student; the eye and hand being thus trained to accuracy, practice and facility are further obtained by copying from drawings and prints; and especially by drawing them on a larger or smaller scale, which confirms and familiarizes the principles previously taught, and prepares the student for drawing from solid objects and the study of perspective by the eye and by geometric rules. We have also examined the pencil drawings of the same scholars executed off-hand by the eye alone, without instruments or measuring, from objects in relief, and pronounce them satisfactory evidences of the correct and useful tendency of their course of study; and, finally, that the system of graphics, as carried into practice in the Central High School, is well calculated to form a part of public education preparatory to writing and other branches of study, and useful in every situation in life.

PHILADELPHIA, *February* 8, 1843.

Signed by John S. Hart, principal of the Central High School; Alex D. Bache, LL. D., professor of natural philosophy in the University of Pennsylvania; Thomas Sully, artist; Samuel V. Merrick, and J. Henry Towne, civil engineers; Charles Moering, captain of engineers in the Austrian army; William Vogdes and E. Otis Kendall, professors of mathematics; John T. Frazer, professor of natural philosophy; Ellwood Morris, civil engineer; George S. Becker, professor of writing; and James McMurtrie.

As in the case of Mr. Fowle, many of whose desirable reforms survived to the great advantage of the schools of Boston, although for a time all his work seemed to be overthrown, so with the works of this artist whose personal efforts had been so cruelly thwarted. A handbook prepared by him and copyrighted in 1845[1] was used in some of the public schools of Philadelphia, and still, it is believed, retains in some form a place in the schools. February 21, 1843, resolutions were passed by "the controllers of the public schools of the first district of Pennsylvania," presumably upon the report made February 8 by the experts whom they had called on to testify as to the merits of the system. These resolutions express approval of the system, recommend the continuance of similar instruction, and give thanks to Mr. Peale, on the part of the board, and of the community, "for his zealous efforts tending to the introduction of drawing as a branch of general education."[2]

We have seen that in Boston and in Philadelphia attempts had been made long prior to 1870 to introduce the study of drawing in the public schools, and how, owing to the opposition of the school authorities and the indifference of the public, such attempts were thwarted. A similar experience befell a like attempt in the city of Baltimore. To one possessing a knowledge of what might have been but for the stupidity of unknown ignorant school officials some thirty years before, it was somewhat pitiful to look upon the display of "drawings" made at the Centennial by the schools of Baltimore. It was painfully evident that the only idea in most of these schools in regard to drawing was the making of pictures, with the inevitable result that occurs when tyros invade the province of the master. What value can possibly inhere to the feeble attempts of the child to rival the master work of the artist, and what other result is possible when the drawing taught in the school is picture making?

EARLY SUCCESSFUL INTRODUCTION OF DRAWING IN HIGH SCHOOL OF BALTIMORE.

In 1848 and 1849, there was in the Boys' High School of Baltimore a teacher of drawing who taught the subject as a science and not as picture making. Based on geometry, his progressive studies proceeded systematically, and the progress made by his pupils was most striking.

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[1] Graphics, the art of accurate delineation, a system of school exercise for the education of the eye and the training of the hand, as auxiliary to writing, geography, and drawing. By Rembrandt Peale. Try. "Nothing is denied to well-directed industry." Philadelphia: E. C. & J. Biddle, No. 39 South Fourth street. 1854. Ill. 41 plates. pp. 132.

[2] For extracts from Mr. Peale's work, se

This work by chance fell under the observation of the present writer, and made a lasting impression, which was vividly recalled when Walter Smith's system of drawing was examined, and the principles underlying the two systems were found to be practically identical. The interest was greatly heightened when afterwards it was learned that a text book, prepared by the gentleman who had taught drawing in the Baltimore high school, had been, as long ago as about 1852, introduced as a text book into "the department of art of the Government School of Design of Great Britain," and that it still remained in use, so that it was no unreasonable supposition that Walter Smith in using this text book had himself been trained, while attending the Government art schools of Marlborough House or of South Kensington, in the very system taught by the Baltimore teacher with such success.

HOW INDUSTRIAL EDUCATION IN BALTIMORE WAS RETARDED FOR TWENTY YEARS.

After teaching in the high school for one or two years this teacher was dismissed, because forsooth some member of the committee, who was utterly ignorant about any form of art, had some favorite, equally guiltless of any ability to teach industrial drawing, whom he wished employed; rational drawing was relegated to the limbo of forgotten things, picture making was encouraged, and the school children of Baltimore for the next twenty years were deprived of the very opportunity England has taken such pains to furnish, and which, twenty years later, Massachusetts made such commendable efforts to procure.

When, a few years ago, after Walter Smith's system had been partially introduced in the schools of Baltimore, some worthy successors of the school committeeman who did such brilliant execution about 1849, as just related, made an effort to cast out the new industrial drawing from the schools and to force the children to return to their picture making, there appeared in the columns of the Baltimore American a protest against the proposed movement which had been filed with the school authorities. This remonstrance was written in such vigorous language, and showed such thorough knowledge and comprehension of the whole subject in all its relations to the interests of the community, that the present writer was moved to go at once to Baltimore to learn the name of and, if possible, to see the author. An interview being had through the courtesy of Mr. Shepherd, then superintendent of city schools, the gentleman proved to be none other than the former teacher of drawing in the high school, the late Mr. William Minifie, a well known and respected citizen, who, as an author of text books on mechanical drawing, etc., in general use by students, was an accepted authority on questions of practical instruction in these branches.

ADDRESSES ON INDUSTRIAL ART EDUCATION, BY WILLIAM MINIFIE.

After his dismissal from the high school, Mr. Minifie was for a few years (1852-'54) professor of drawing in the School of Design of the Maryland Institute. As such he delivered public addresses. Mr. Minifie published three addresses,* from the desire, as he says in his preface, "to call the attention of the public, and of editors especially, to the great importance of introducing this almost wholly neglected branch of instruction into the systems of education of all our schools, both public and private, the primary as well as the high schools; not as a mere accessory that may be dispensed with at pleasure, but as one of the fundamental branches of education in connection with writing and arithmetic, since its importance and usefulness to a very large number of students can hardly be considered inferior to those branches. * * *

"To get good designers we must take the proper means for educating them; and if we should make drawing a branch of common school education, we should have an opportunity of selecting those who evidenced superior talent for the art, and at the same time, by improving the taste of all, we should create in many an appreciation of the beautiful, and consequently very much extend the consumption of art productions.

"A glance at the large statistics of our importations should convince the objector that the cultivation of art is no trifling matter, but fraught with grave and important consequences to the rising generation."

COMPREHENSIVE AND ADVANCED VIEWS EXPRESSED IN THESE ADDRESSES.

These public utterances were made, it must be remembered, more than thirty years ago. In those brief lectures Mr. Minifie has condensed an admirable statement of the claims of drawing, both educationally and for its direct relation to the manufacturing prosperity of the nation; he especially refers to the opening it offers to women for remunerative and agreeable employment.

One cannot but feel that had he been permitted to exercise his legitimate influence in the community, it would have greatly promoted the prosperity of his native city; but combined ignorance and indifference form an awful hinderance to progress, and one man can do but little against a community.

The same causes that led to his removal from the high school hampered for years the progress of the schools of the Maryland Institute, hinderances happily removed within the past few years, during which the managers of this admirable institution have shown an intelligent comprehension of the needs of the community and corresponding enterprise in providing for them.

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*Popular Lectures on Drawing and Design: delivered at the public meetings of the School of Design of the Maryland Institute, at the opening and closing of the sessions of 1852-'53 and 1853-'54. By William Minifie, professor of drawing in the school, author of a text book of mechanical drawing and an essay on the Theory of Color. Baltimore. Published by William Minifie, 1854. pp. 258. Price, 20 cents.

In the Maryland State Normal School, in Baltimore, owing to the intelligent encouragement of the Hon. M. A. Newell, State superintendent of education and principal of the normal school, and to the remarkable energy shown by the then teacher of drawing, Miss Josephine Lough, herself a pupil of Walter Smith, the progress shown by the pupils, after but a single year of training, as evinced by the public exhibition of their works in May, 1879, was most extraordinary, both in the character of the work shown by the scholars and as showing that normal school scholars, fitting to be teachers, could, without losing ground in other studies, readily acquire such knowledge of drawing as would amply qualify them to teach it in their schools.

INCIDENT RELATING TO MR. MINIFIE.

In an address upon the subject of industrial drawing delivered on this occasion, the annual anniversary exercises of the school, the present writer recounted the facts just recited, dwelling upon the point that Baltimore might easily have anticipated Boston twenty years by the introduction of this new system of industrial drawing in all the schools of the city had her educational authorities but possessed the requisite sagacity, since Baltimore then had, in Mr. Minifie, the man to do it, and had already seen the actual success of the experiment in the boys' high school in 1849.

Unknown to the writer, a fact which added to the interest of the audience in the incident, Mr. Minifie occupied a seat on the platform, but, owing to extreme deafness, did not know of the reference to himself until informed of it after the close of the address. Added years had brought infirmities, but no loss of enthusiasm in his favorite ideas, and he was present as an expert judge, to award the prizes for the best drawings.

LETTER FROM MR. MINIFIE.

The following letter was the outcome of this pleasant incident. The statement herein contained of the scanty facilities then existing for any art instruction, in the way of text books, at the time of Mr. Minifie's first publications, is a contribution from an original and authoritative source to this historical sketch of the progress of art education in the United States:

BALTIMORE, *June* 2, 1879.

MY DEAR SIR: Please accept my heartfelt thanks for your very kind recognition of my efforts in the long, long ago, toward the introduction of geometrical and industrial drawing in schools and elsewhere, as given in your address before the Normal School of this city at its commencement, on the 29th ultimo, and extracts published in the Baltimore American on the following morning. It was a surprise to me as well as a gratification, as I had supposed that all recollection of those efforts, as far as public recognition was concerned, was dead and buried long since.

It is true that those books are still live books, and are kept well before the public in his catalogue, etc., by Mr. Van Nostrand, of New York, who published them for me. Some 15,000 copies of the books (the 12mo and 8vo sizes) have been published to this date.

I am frequently told by engineers and by members of other kindred professions that they used my book while studying their professions. To the large number who used the books the author's name is but a name: it was for yourself only to connect my early efforts with the present popular system of industrial drawing used in the public schools, toward which they no doubt contributed some impetus, if not to so great an extent as your kindness attributes to them.

There is one part of the work, "The essay on perspective and shadows," that has never received the meed of praise which my partiality would claim for it. Previous to the publication of my essay the art was almost a sealed subject except to a few experts.

Jesuits' Perspective, so named from the fact that its authors belonged to that order, was chiefly occupied in the delineation of domes, etc., when viewed from below, the foreshortening of the human figure, etc., and with other equally abstruse subjects; the plates consisting of such a multiplicity of lines as to confuse and dishearten almost every would-be student of the art.

Davies' Shades and Shadows, used as a text book at West Point, was so full of mathematical problems as to be entirely useless to the general public. I cannot remember any other books on those subjects then available.

A knowledge of a few practical laws in optics and plain instructions as to their application was all that I deemed necessary to enable students to construct perspective views from plans and elevations of architecture and machinery.

My aim when commencing the book was to make the whole as plain and simple as I could, by using simple diagrams, avoiding technicalities as much as possible, and by explaining them when used, so that persons unacquainted with geometry would be able to use the book without a master if necessary.

In the essay on perspective this was doubly necessary, as the subject would appear difficult to a learner, and a correct definition of terms was of the utmost importance to his understanding the instruction given.

To show that I was in some degree successful in those aims, permit me to quote the following paragraph from the review of the book in the London Art Journal:

> "The work he has put forth exhibits the system adopted in his practice, which is as simple as the science will permit to make it really comprehensive and useful."

Since that time many useful elementary treatises have been published on perspective, but mine was the first attempt to simplify a very abstruse subject and fit it for popular use. I derive much satisfaction from this knowledge, although I do not know that it has ever been especially referred to by any of the reviewers. The notices of the book, as a whole, were unusually favorable.

I have sent by this mail a small pamphlet containing addresses given by me at the School of Design of the Maryland Institute some twenty-five years ago, as I do not remember sending you a copy. Again thanking you for your "honorable mention," permit me to subscribe myself,

Your sincere friend and obedient servant,

W. MINIFIE.

Col. I. EDWARDS CLARKE,
U. S. Bureau of Education, Washington, D. C.

PROFESSOR JEHU BRAINERD, CLEVELAND, OHIO.

In addition to the previous brief accounts of the early efforts to introduce drawing as one of the required studies in the public schools of Boston, Philadelphia, and Baltimore, it was hoped that it would be possible to give a like history of the efforts in this direction undertaken by the late Professor Jehu Brainerd in the city of Cleveland, Ohio, but the material anticipated is not at hand.

Professor Brainerd published a text book of drawing based upon geometry and arranged progressively, each exercise leading logically to the next, for the use of the schools of that city.

The following brief account of Professor Brainerd's services was given in the little historical volume* prepared for the Centennial by Hon. Andrew Freese, the well known superintendent of the city schools of Cleveland. Professor Brainerd, who was subsequently and for some years before his decease an examiner in the Patent Office at Washington, was somewhat remarkable for his interest in scientific researches and pursuits; he acquired reputation as a skilled microscopist, and among other public spirited undertakings he was active in the establishment in Cleveland of a homœopathic college of medicine, in which, for some years, he occupied acceptably a professor's chair. In default of the more definite statement of his connection with the introduction of drawing into the public schools of the city, this account by Mr. Freese is inserted:

> Drawing was introduced into the schools as a regular exercise in 1849. The board of school managers for that year say, after speaking of penmanship: "Drawing, too, has been taught—in the higher schools by a professed teacher of this useful and beautiful art, Miss Crosby; in the primary schools by their respective teachers. Numerous specimens of linear and a few of perspective drawing, most of them deemed very promising, were exhibited at the examinations." Miss Crosby's services were discontinued after a few months, for it was the expectation of the board that the regular teachers in charge of the schools would themselves be able to keep up the classes in drawing unaided. They did make a heroic attempt to meet this expectation. They employed teachers and took private lessons, first of Mr. Shattuck, author of an excellent work on drawing, then of Prof. J. Brainerd, of Cleveland. Professor Brainerd had so much sympathy for the teachers in their new labors that he followed them into their schools and assisted them in teaching. He kept up visiting the schools and giving instructions in drawing for several months without promise of compensation or expectation of receiving any. A quotation from the school report for 1857 will, perhaps, suffice for the history of the year previous to its publication:
>
> > Professor Brainerd, actuated more by his love for the beautiful and useful art of drawing, and by a desire to encourage its proper cultivation, than by the trifling compensation he has received, has afforded considerable instruction in the schools. His course is to familiarize youth with the principles of drawing, both plain and perspective, so that they may sketch natural objects with freedom and accuracy, rather than to make them mere copyists of the drawings of other people, which last, although the most that is generally attempted in schools, is not drawing in any true and liberal sense—not that the exercise of copying from books is without its uses, particularly to primary scholars, with whom the principles of the art would be too abstruse for comprehension, but that in the higher departments, certainly, a much more radical training should be had. Professor Brainerd, at the request of the board, has embodied his Course of Drawing Lessons in a plain and cheap publication, an improved edition of which is being printed, the first having been taken up by schools in this vicinity.
>
> But now, since drawing had been so generally introduced into all the departments, the board of managers made a more permanent arrangement for its continuance. They engaged the services of Professor Brainerd and put this branch of instruction under

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* Early History of the Cleveland Public Schools, by Andrew Freese. Published by order of the board of education. Cleveland, Ohio.: Robinson, Savage & Co., book printers, Frankfort street. 1876. pp. 128.

his management. He entered upon his work with a great deal of zeal, and a new interest in drawing was manifested throughout all the schools of the city. Professor Brainerd was in the employ of the board for a period of seven or more years continuously. The general proficiency made by the schools was very satisfactory, considering the small amount of time devoted to it — one hour a week in the upper grades, half the amount in the lower — and there were individual instances of attainments in every school that were marked; here and there a genius was developed. Hundreds will remember "Hinman," of the Central High School, for his special gifts in sketching; Rockwell School had a "Nast," whose pictures made everybody laugh, and so on. The many may become elegant penmen, leaving, for all practical purposes, no more to be desired; the few, by culture and training, develop high gifts in the art of drawing, while the many remain on the lower plane, appreciative, perhaps, but without a "cunning hand" to execute; at least this seemed to be so from our few years of experience.

It is most probable that in many cities and towns in these United States, during the present century, efforts have been made, from time to time, with similar purposes. It was not the design in this chapter to essay any complete record of such attempts, but only to show that the plan successfully introduced in Boston was not to be understood as claiming to be a novel scheme, or that it promised any royal road to success in the arts and industries never before discovered; but, rather, to show that it was the very system which wise artists and educators in this country had many times previously urged upon their immediate communities,* and that it should be received not with the suspicion of an untried experiment — a new-found "philosopher's stone" — but with the confidence due to a system which had been thoroughly tested in other countries and which was well understood and thoroughly approved by many American artists and educators long before the English Government art schools of South Kensington were founded.

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* For extracts from the text books and addresses of Mr. Peale and Mr. Minifie, see Appendix A, Part I.

CHAPTER II.

STATE ACTION IN REGARD TO DRAWING IN THE PUBLIC SCHOOLS OF MASSACHUSETTS.

The history of the introduction of the study of drawing in the State of Massachusetts, as recorded in the statute books and official educational reports of the State — The origin and cause of the movement — The need of some form of industrial education recognized by the educational officials — The widespread recognition of this need as shown in the reports from the several cities and towns — Petitions to the legislature — Reports of committees — The methods by which information was disseminated and public opinion created — The final passage of the law making it a required study — The calling of Walter Smith and his joint employment by the State and city authorities — The rapid progress of the movement thus begun for the thorough technical industrial training of the people.

SIGNIFICANCE OF THE PREVIOUS FAILURES.

The history of these several abortive attempts to disseminate a general knowledge of drawing in the various communities, as related in the preceding pages, is of twofold value: first, from the evidence thereby given by many persons eminently qualified to render an intelligent judgment upon such a question as to the utility of the study and the practicability of teaching it in the common schools; secondly, as illustrating the difficulties to be overcome by any successful attempt to introduce it.

In the instances just cited it is clear that neither the communities nor the educators were then ready for the undertaking; still, in the light of subsequent events, it is easy to see how these very unsuccessful efforts tended to educate some in the community and to awaken more general interest in the subject, while, owing to the rapid progress of events in the industrial countries of Europe, the necessity of some positive action on the part of the manufacturers of the United States, unless they were willing to submit to inglorious inferiority in all but the lowest grades of production, was becoming more and more pressing; for, however prominent at times in the discussion of this question the educational features of the new study may be made to appear, it is well always to remember in considering it that it is owing alone to its direct bearing upon the industries of a people that its claim to admission as a required study in the free common schools of the country is justified and urged.

It has been also by many authorities ably advocated, as we have noted, by reason of its educational, refining, and artistic qualities and influence, all of which inhere to it; but still, its irrefutable claim for admission to the common, primary schools of the people rests and must rest upon its utility.

THE CLAIM OF THE NEW STUDY RESTS PRIMARILY UPON ITS UTILITY.

If this cannot be shown beyond peradventure, all the other arguments are futile, and of right ought to be. As food, clothing, and shelter are the absolute conditions of life, without which there is nothing, but with which all progress is possible; so there are, for a people, certain primary needs of education which must be supplied to every child, to the exclusion, if need be, of many other else most desirable opportunities. As nations progress in civilization and as the consequent competition between them increases, the preparation required for the struggle for existence varies, as well for the individual units who compose the nation as for the nation itself. Hence it follows, that what was not felt by any one as a necessity a century ago, is everywhere recognized as indispensable to-day. This is as true as to what are to be held as absolute essentials in education as it is in all other respects. It was the recognition of the fact that, in all the industrial arts, this nation was in danger of relative inferiority, that forced the consideration of this matter of remodelling the studies of the common schools with a view to definite industrial training of the hand and eye.

The general study of industrial drawing by all the children of the community is urged from a desire to insure to the country that adopts it a class of trained art workers, who shall be fitted to compete with the most skilful artisans of the world. These throngs of children, in the common schools of these United States, are the future workers who will form the great industrial armies of the country.

Through their intelligent efforts the countless resources of this land are to be developed and also the prosperity and liberties of its people guaranteed.

As a great manufacturing community, it was, therefore, natural that the first serious movement to inaugurate this new popular industrial education, of which, it must not be forgotten, the training in drawing is but a feature, fundamental and important as it is, should have its origin in Massachusetts.

JOINT ACTION OF CITY AND STATE EDUCATIONAL OFFICIALS.

The city of Boston and the State of Massachusetts, in their corporate capacities, severally and jointly, undertook the new experiment, an experiment which the whole country watched with great interest, for the need of some device to meet the increasing difficulties was generally appreciated. Having already recounted several of the earlier unsuccessful attempts in different places, it remains now to show how, and by what methods, Massachusetts relatively succeeded in an undertaking in which, heretofore, so many communities and individuals had failed.

As briefly as may be, the history of this movement in Massachusetts, from its first inception to the present time will be given as derived from published official and other authoritative sources. As the Massachusetts scheme is a comprehensive one, it will be given in detail, the various instrumentalities and courses of studies adopted being set down in full.

The limits of this report prevent any attempt to give so detailed a history of the similar experiments which have followed in other States and cities.

The scheme for Massachusetts, having been prepared by an admitted authority and having passed the ordeal of twelve years of actual operation, is suggested as a desirable model for consideration by other communities, its minor details being changed by them as difference of circumstances may require. As a thorough, progressive system, it has proved admirably adapted to the demands of the public schools in Massachusetts.

HOW NEW STUDIES ARE LEGALIZED IN MASSACHUSETTS.

In Massachusetts certain studies are enumerated in the law as required to be taught in all the public schools, while certain other studies are enumerated as permissible at the discretion of the school committee. The first appearance of a given subject in the list of permitted studies and the subsequent appearance of that study in the list of required studies thus furnish an index of the progressive movement of common school education upon higher and broader planes.

In the thirty-eighth chapter of the Massachusetts General Statutes, as published in 1860, is the following paragraph:

> Algebra, vocal music, drawing, physiology and hygiene, shall be taught, by lectures or otherwise, in all public schools in which the school committee deem it expedient.

This seems to be the first legal authority to teach drawing in the public schools. The words "vocal music and drawing" were inserted in the law during the revision of the laws which was made by the joint committee of both houses, adopted by the legislature at the extra session of 1859 and first appeared in full in the volume of the general statutes of 1860.

In the annual volume of laws for 1869, in chapter 80, the board of education is directed to prepare a plan for free instruction—

> To men, women, and children in mechanical drawing, either in existing schools or in those to be established for that purpose, in all towns and cities in the Commonwealth having more than 5,000 inhabitants, and to report a definite plan therefor to the next general court. Approved June 12, 1869.

This shows that the subject had already attracted public interest. The volume of the next year shows how that public interest had crystallized into law, since chapter 248, annual volume of Massachusetts laws for 1870, reads as follows:

AN ACT relating to free instruction in drawing.

SECTION 1. The first section of chapter 38 of the general statutes is hereby amended so as to include drawing among the branches of learning which are by said section required to be taught in the public schools.

SEC. 2. Any city or town may, and every city or town having more than 10,000 inhabitants shall, annually make provision for giving free instruction in industrial or mechanical drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the school committee.

SEC. 3. This act shall take effect upon its passage.

Approved May 18, 1870.

THE PROGRESS OF THE NEW MOVEMENT AS SHOWN IN THE STATUTE BOOK AND THE ANNUAL EDUCATIONAL REPORTS.

Though the result of the previous agitation on the subject is thus stated, and a certain development of the new study was secured by the enactment of the law as above quoted, still the account of preliminary steps as recorded year after year in the annual reports of the Board of Education before the enactment of the law, is full of interest, as indeed are subsequent movements recorded in the following years, indicating as they do the difficulties arising even after the passage of laws and in spite of the continued activity of their enthusiastic supporters.

FURTHER DEVELOPMENT FORESHADOWED IN THE ANNUAL REPORTS.

There is a further interest in noticing the evidence found in these annual reports of a progressive development of the whole subject of elementary training in the application of the arts to industries—the logical evolution of the germ idea contained in the plan of introducing industrial art drawing, as a required study, into the public schools of the Commonwealth.

The following statements, which form the concluding paragraphs of the Thirty-fifth Annual Report of the State Board of Education, for 1870–'71, will suffice to show the importance of this subject to the industrial interests of the people of Massachusetts in the estimation of the distinguished citizens and educators who then composed the board. What was then true in regard to the interests of Massachusetts is still true as regards the manufacturing interests of the people of the United States. It is trained skill alone that can secure success.

A resolve was passed by the last general court "relating to technical instruction in schools," by which the board of education were directed to report a "feasible plan for giving in the common schools of the cities and larger towns of this Commonwealth additional instruction especially adapted to young persons who are acquiring practical skill in mechanic or technical arts, or are preparing for such pursuits."

Technical education is instruction in the peculiar knowledge or special skill required in any business or occupation, the training which will render the talents of the citizen most useful to the State in that particular craft, trade, or profession in which he or ehe is engaged, whether as mechanic, farmer, sailor, engineer, teacher, merchant, architect, minister, doctor, or lawyer. As the education of the common schools fits the youth for the performance of his general duties as a citizen, so the technical school prepares him for the special duties of his trade or profession. Divinity, law, and medical schools, for special or technical instruction in those professions, have long been in successful operation. More recently the State has established normal schools for training teachers and an agricultural college to educate farmers. It has also generously endowed the Institute of Technology in Boston and the Museum of Zoölogy in Cambridge; but though these last two institutions and the scientific school in the latter place afford great advantages to those who intend following the higher walks of industrial pursuits they do not give the practical instruction required to fit the mechanic for his daily work. They bear the same relation to schools for the technical education of mechanics that the college does to the high school: each is indispensable in its place, but neither fulfils the functions of the other.

The only school in this State where a technical education in mechanics combined with practice can be obtained is the Worcester County Free Institute of Industrial Science, in Worcester. It was incorporated in 1865, and is a model institution which has no superior in this country. The corps of instructors embraces professors of chemistry, mechanics, and physics, drawing, mathematics, civil engineering, French, and German. There are eighty-nine pupils in the school, mostly from Worcester County. There are also twenty free State scholarships for the benefit of pupils from other counties than Worcester, to be selected by the board of education.

The value and importance of schools of this character is not understood or appreciated in this country. If our citizens engaged in mechanical pursuits, and they comprise the body of the people, had realized that the State could have provided schools as useful and necessary for the education of mechanics as the divinity and law schools are for the training of ministers and lawyers, they would have demanded and obtained them before this. It should be unnecessary to enlarge upon the vital importance of schools of this character. One of our leading citizens, who has devoted much time and thought to this subject, says that "provision for the prompt, speedy, and ample, or the better education for the manufacturing or mechanic operatives of Massachusetts is not only an investment promising a vast pecuniary return but is to-day a necessity of self-preservation for the State." Four-fifths of all the industry of the State is dependent upon occupations for which the training of these schools would be a preparation. Over 250,000 of our inhabitants are engaged in mechanical pursuits, yet nothing has been done for their special instruction until within a few years.

In this branch of education, as in many others, Germany, Switzerland, Austria, and Belgium have taken the lead, leaving England and America far behind. In the great exhibition in London in 1851 English workmen excelled in nine-tenths of the one hundred departments; but in the Paris Exposition of 1867 they excelled in only one-tenth. During those sixteen years, artists, mechanics, engineers, and chemists trained in technical schools had entered the workshops of Europe, and by means of their skill and knowledge had transferred to the Continent the supremacy England had so long enjoyed. At that very time a French company was building locomotives for an English railway and iron girders for a building in Glasgow were being constructed in Belgium. England, alarmed at the report of her jurors at the Exposition, at once established technical schools in many of her largest cities, and has determined that hereafter her citizens shall at least be as well educated as those of Europe, and shall have a technical training "which will make the new generation of Englishmen excel the new generation of foreigners in this coming rivalry of race and nation."

The question for Massachusetts to consider is what position she will take in this strife for the world's prizes. We cannot expect long to enjoy the high protective tariffs that now keep out the cheap products of the skilled labor of Switzerland and Prussia, nor should we desire it. The market for our industries ought not to be confined to the State nor even the United States. The broader development which our free institutions give to the individual man enables him to accomplish a greater amount of work; and if we only furnish a better technical education than is given abroad, we can contend on an equal footing and compete successfully for the markets of the world. Without such education the American artisan must gradually descend in the scale of industry and content himself with a menial station in life, for there is no middle ground. Drawing is the language of mechanics, and ability to use the pencil freely lies at the foundation of success in many mechanical pursuits. The board have not overlooked its importance, and two years since they submitted to the legislature a bill "relating to free instruction in drawing" which became a law. The good results that have already followed are admitted by the community and have been referred to in another portion of this report.

While the board do not think it feasible or advisable to give technical instruction in the common schools, other than drawing, and perhaps needlework to girls — inasmuch as none of the branches now taught in those schools can be dispensed with, for the graduates of the common schools are the only ones properly fitted to enter the technical school — they would suggest that the State authorize all cities and towns having a population of five thousand and over to establish free technical schools for instruction in such branches of knowledge common to the leading industries of the entire State as may from time to time be prescribed by the board of education.

Governor WILLIAM CLAFLIN,
Lieut. Gov. JOSEPH TUCKER,
CONSTANTINE C. ESTY,
SAMUEL T. SEELY,
JOHN D. PHILBRICK,
DAVID H. MASON,
HENRY CHAPIN,
ALONZO A. MINER,
GARDINER G. HUBBARD,
WILLIAM RICE.

FURTHER ADVANCE IN THE INDUSTRIAL EDUCATION OF THE PEOPLE.

To one observing carefully the means taken by the friends of this plan of the introduction of the study of drawing in the schools to inform the people and the legislators, until their efforts resulted in the enactment of the desired law, there are indications in the annual report for 1882 that an additional step forward is seriously contemplated; step by step, the far-seeing educators of Massachusetts advance, seeking to place their State in the forefront of skilled manufacturing communities.

In this State private liberality and public zeal go hand in hand, each aiding the efforts of the other.

MASSACHUSETTS THEORY OF THE PROVINCE OF THE COMMON SCHOOL.

Whatever of value to the future citizen can be embodied in the free common schools, so as to be accessible to every child, it is the long-settled policy of the State to thus embody — despite the opposition of a small minority of grumbling chronic objectors.

As, in the subsequent account of the Massachusetts Normal Art School and of the other State institutions, abundant use is made of the official history of these institutions contained in the volumes of the annual reports of the State board of education, only such abstracts of these official reports follow here as will suffice to give a succinct account of the efforts immediately preceding and accompanying the introduction of drawing as a required study in all the schools, given with the purpose of recording the names of such public spirited citizens as took active and public part in thus promoting the interests of the people and, further, as furnishing to other States and other communities an account of the methods by which this important innovation was so successfully accomplished.

This abstract commences two years before the final passage of the law. So far as may be inferred from the reports of previous years, although drawing had been permitted since 1860 and had in fact been taught in the normal schools, the experience of Massachusetts resembled that of England prior to the founding of the South Kensington schools and the organization of the comprehensive system of industrial art training then first put in operation in Great Britain. Until the adoption of a graded system of drawing—having a beginning, a regular progression, and a definite end in view—there was little return in Massachusetts, as formerly in England, for such desultory efforts. Drawing as an accomplishment, as mere picture making, had no rightful place in the schedule of common school studies. That there were educational possibilities as well as industrial profit in this study, some people, cognizant of the success of its introduction as an elementary study in English and continental schools, believed, and they were beginning to disseminate their beliefs and to urge its adoption as a progressive advance in popular education. The final success of their efforts we have already recorded, and will now trace briefly the steps by which they advanced to their end.

EARLY INDICATIONS OF A POPULAR INTEREST IN THE SUBJECT.

In the Thirty-second Report of the Board of Education, for the year 1868, there is no reference to drawing in the report proper of the board, or in that of the secretary; but, among the extracts from the various reports of the towns and cities of the State, which it was then customary to include in this annual volume, the study is referred to in the reports of the superintendent or school committee, in five instances, namely: in Charlestown, Lowell, Northampton, Ware, and New Bedford.

The superintendent of Charlestown devotes a page to setting forth the various claims of drawing, and urges it especially for its educating power:

> It addresses itself to the earliest developed faculties of the child, and should receive attention as soon as the child can hold and guide the pencil.

After reading the criticism against this study contained in the gubernatorial address of 1883, in which it is classed among the studies which should not be taught in the public schools, because, forsooth, more than 91 per cent. of the pupils in Massachusetts leave school before attaining the age of fifteen (the very reason of all others why drawing should be taught in the public schools!), it is interesting to see that, as long ago as 1868, there is included among the extracts from the reports of the superintendents and school committees of towns and cities, which are given in the volume of the Thirty-second Annual Report of the State Board of Education for that year, a report from Mr. John A. Goodwin, for the school committee of the city of Lowell, the home of the objecting governor, in which the claims of drawing to admission in all the schools as a required study are earnestly advocated; while the experience of Cincinnati in introducing the study in all the city schools, and of Prussia, where it has long been taught, are instanced in proof of its feasibility and utility. Mr. Goodwin, who is an advocate for the natural methods of imparting instruction, affirms that "drawing should go hand in hand with object teaching from the first month in the primary school to the last month in the high school," and pertinently remarks:

> That an art of which the simpler parts are so readily acquired and which is constantly useful in itself, besides the training it gives the hand and eye for other purposes, should be totally neglected in the schools is in a practical community like ours a very singular fact.

In the extracts from Mr. Goodwin's reports, as given in successive volumes of the Annual Report of the State Board of Education, in which statements of the importance and needs of the primary schools are reiterated, there may, perhaps, be traced the suggestions to which are due the arguments used by the governor, in his address of 1883, in urging the claims of the primary schools to the enjoyment of better instruction and more competent teachers; still, if this be so, it is strange the governor should so wholly ignore the grounds upon which Mr. Goodwin also so earnestly urges the utility of the study of drawing as one of the most desirable studies to be taught in these primary schools.

In the same volume the superintendent of schools in the town of Northampton instances a case in which an active child, in disgrace from inability to keep still, was, at the suggestion of the superintendent, given a slate, and so was interested, delighted, and occupied by being allowed to draw, instead of being punished for restlessness. The superintendent draws a lesson therefrom in favor of following the suggestions of nature by directing the activity of the child, instead of enforcing unnatural order and stillness, and shows how valuable in this aspect drawing may be made; while the school committee of Ware urge its usefulness as an adjunct to the study of penmanship. In the extracts given from the report of the school superintendent of the city of New Bedford, drawing appears as a regular study in the new "graded course of instruction for the public schools." In the instruction to teachers Superintendent Harrington, who has ever been zealous in the promotion of this new study and among the foremost in all efforts for improved methods in education, shows that he well comprehends that it is not picture making which is to be taught.

Although but five towns in the whole State here give evidence of any interest in the subject, the intelligence and zeal shown by those who do thus mention it clearly indicate that the topic is attracting the consideration of the foremost educators.

In the Thirty-third Annual Report, for the year 1869, the subject of drawing is referred to by only three out of the two hundred and sixteen cities and towns from whose reports extracts are included in the volume. These were Lawrence, New Bedford, and Northbridge. In these exceptional instances the study is urged as of value to the teachers for the facility it affords for illustrating other topics and to the scholars for its utility to such pupils as shall follow mechanical callings. The example of Prussia, in enforcing universal training in elementary drawing, is emphatically referred to. However, in the closing lines of the report proper of the board, the soon-coming legislative action is thus indicated:

> The question of the expediency of establishing free drawing schools for industrial and mechanical purposes was committed to the board by the last legislature. The committee of the board to whom the matter was referred, after full hearing of the petitioners and other interested parties and a careful examination of the subject, are unanimous in favor of the introduction of such instruction.
>
> A bill for the establishment of free drawing schools will be submitted to the legislature.

Here follow the signatures of William Claflin and Joseph Tucker, the governor and lieutenant-governor of the State and ex-officio members of the board of education, with those of the other members, namely, Gardner G. Hubbard, William Rice, Emory Washburn, Samuel T. Seelye, John D. Philbrick, David H. Mason, Henry Chapin, and Alonzo A. Miner.

The Thirty-fourth Annual Report, for the year 1870, published in 1871, contains a history, in brief, of the steps taken to promote the passage of the law.

SUCCINCT HISTORY OF THE MOVEMENT AS RECORDED BY SECRETARY WHITE.

In his own report, the secretary of the State board of education, the Hon. Joseph White, reprints the law and recites the steps leading to its passage, as follows:

> This is one of the most important laws of the session of 1870, and is destined, I doubt not, to produce lasting and beneficial results. It will not, therefore, be ont of place to give a brief account of the steps which led to its enactment.
>
> In response to a petition presented to the legislature in June, 1869, by several of the leading citizens of Boston, a resolve was passed directing the board of education "to consider the expediency of making provision by law for giving free instruction to men, women, and children in mechanical drawing, either in existing schools or those to be established for that purpose, in all the towns in the Commonwealth having more than five thousand inhabitants, and report a definite plan therefor to the next general court."
>
> The board regarded this as a favorable opportunity for effecting an important improvement in the course of instruction in our public schools and cordially entered upon the task thus committed to them. The petition and resolve were referred to a

special committee, consisting of Messrs. Mason, Philbrick, Hubbard, and the secretary, with instructions to make such inquiries as they deemed advisable and report their conclusions for the consideration of the whole board.

Conferences were held with a committee of the petitioners and other gentlemen interested in the subject at which the views of the petitioners were fully unfolded and which resulted in the issuing of a circular asking for the opinions of gentlemen connected with the various mechanical and manufacturing industries of the Commonwealth, of others familiar with the workings of our system of public instruction, and especially of gentlemen eminent for their skill and experience in this particular department of instruction.

Numerous replies were received from persons of each of the classes named, which presented very valuable suggestions with reference to all the points of inquiry contained in the circular. These communications were presented to the board, accompanied by a brief and able report, by Mr. Mason, which embodied the conclusions to which the committee had come, with the reasons therefor.

The report met with the unanimous approval of the board, and it was voted to recommend to the legislature the following action, to wit: That a law be passed requiring (1) that elementary and free hand drawing be taught in all the public schools of every grade in the Commonwealth, and (2) that all cities and towns having more than —— inhabitants be required to make provision for giving annually free instruction in industrial or mechanical drawing to men, women, and children, in such manner as the board of education shall prescribe; also to authorize the printing, in pamphlet form, under the direction of the board, of the communications received by the committee or such portions of them as might be deemed advisable for the use of the legislature and for general distribution.

A brief report was made to the legislature which embodied the original petition, the circular and report of the committee, the action of the board thereon, and some further suggestions relating thereto. * * *

The recommendations were favorably received by the legislature, and embodied in the foregoing act and in an order of the house of representatives to print in pamphlet form two thousand copies of such of the communications above named as the board should designate.

Accordingly a pamphlet of fifty pages was printed, containing communications from the following persons: C. O. Thompson, principal of the Worcester Technical School; Prof. George Gladwin, of the same school; William R. Ware, professor of architecture in the Massachusetts Institute of Technology; Prof. Louis Bail, of the Sheffield Scientific School at Yale College; William N. Bartholomew, teacher of drawing in the public schools of Boston; Prof. John S. Woodman, of Dartmouth College, Chandler scientific department; Mrs. J. W. Dickinson, teacher of drawing in the Westfield Normal School; Charles A. Barry, instructor in drawing in the public schools of Boston; and Henry Barnard, LL. D., late Commissioner of Education, Washington, D. C.

These are papers of rare value, treating of the subject of drawing in its relations to general education, to our various mechanical and manufacturing industries, to high culture in art, and indicating the most approved methods of teaching it both in the public schools and in special classes. They will be printed in the appendix to this report, and I invite special attention to them by school committees and all patrons of our public schools.

Other less extended but valuable papers were received, from which I shall make liberal extracts in illustration of the topics to which I propose to invite attention.

In the following extracts it is apparent that Mr. White fully appreciates the value of the proposed evening drawing schools:

It gives me very great satisfaction to learn that the law has been cordially welcomed in nearly every section of the State. It evidently met a felt, if not an acknowledged, want. That portion of it especially which relates to the teaching of industrial drawing has called forth a degree of interest, not to say enthusiasm, altogether beyond my expectation. In many of the cities large classes have been formed and are now instructed in evening schools composed of persons — mostly mechanics — of all ages from fifteen to fifty, and the progress of attainment has thus far given the highest satisfaction alike to the pupils and instructors and fully justified the expenditures made.

Large classes have been formed in Springfield, Worcester, Boston, Cambridge, Charlestown, Salem, Taunton, New Bedford, and Fall River, and in other cities the matter has been favorably considered and steps taken for the formation of classes during the present season. * * *

The numbers in attendance have been large, varying from 120 to over 400. In many instances more persons applied for admission than the committee could accommodate with room or furnish with competent instruction. Indeed, the small number of properly qualified instructors who can be obtained is the most serious obstacle in the way of forming classes. If, however, the demand for such instruction shall continue, the pupils in our scientific schools will, I doubt not, make special efforts to qualify themselves, and there will soon be no lack of competent teachers.

The methods of organizing and conducting these schools have been left to the judgment of the several school committees. * * * The school committee of the city of Boston entered upon the work with characteristic promptitude and vigor.

In respons to the recommendation of the subcommittee on drawing, the following orders were passed:

(1) That the committee on drawing be authorized to employ a suitable teacher from the South Kensington Art School, as normal instructor in this city, at a salary not exceeding £500 a year.

(2) That the committee on drawing be authorized to establish *three* evening schools for drawing, in such rooms as may be furnished for the purpose, the schools to be open at least two evenings a week, from November 1 to May 1, under such regulations as the committee may propose.

The following statement, cut from the Boston Journal of January 17, will show in what manner and with what success these orders have been carried into execution:

> It was under the second section of the act that the experiment was started in Worcester which appears to have made such gratifying progress. In this city, also, we have to record an equally auspicious beginning. An evening school was established at the rooms of the Institute of Technology some four weeks ago. Four lecture rooms and one large drawing room have been hired and seven professors have been employed, five of whom are professors in the institute. The school is under the charge of Professor Willard, of the institute. As soon as the school was opened there were some six hundred to eight hundred applications for admission, while the rooms will accommodate only about two hundred and forty pupils at one time. In order to secure the advantages of the system to as many as possible, the pupils have been divided into two equal sets or classes, each class receiving instruction two evenings in the week, so that nearly five hundred applicants have been admitted. About two hours and a half are given to instruction each evening. Two of the professors teach elementary free hand drawing from real objects; one teaches free hand drawing of machines, and the rest are engaged in teaching mechanical drawing. Nearly all the applicants for admission are apprentices and journeymen of different mechanical trades, and there are as yet few applicants from the attendants of the public schools. The accommodations will be extended as rapidly as possible, and in the mean time new applicants will be admitted to fill any vacancies that may occur.

The secretary thus announces the engagement of Professor Walter Smith:

Acting under the instructions of the city, the committee have been for some time endeavoring to secure the services of an accomplished art master from England, and they have finally engaged Mr. Walter Smith, a gentleman who has received a thorough training in the celebrated Kensington school and is the present art master in charge of the schools of Leeds. He will arrive in this country some time during the present year, and will be placed in charge of the department of drawing in the Boston schools and also will give normal instruction to the teachers. When these arrangements are perfected the Boston schools will undoubtedly take as high rank in art instruction as they have already taken in the department of music.

Equally encouraging accounts, either verbal or written, have been received from the superintendents of several of the other cities in which schools have been established. * * *

There are twenty-three cities and towns in the Commonwealth which have more than 10,000 inhabitants each, and thus come within the provisions of the statute under consideration. Their names are as follows: Adams, Boston, Cambridge, Charlestown, Chelsea, Fall River, Fitchburg, Gloucester, Haverhill, Holyoke, Lawrence, Lowell, Lynn, New Bedford, Newburyport, Newton, Northampton, Pittsfield, Salem, Somerville, Springfield, Taunton, Worcester.

There are also twenty-five towns having less than ten and more than five thousand inhabitants each. I give the names, divided into three groups, according to population: Towns having over 9,000: Abington, Chicopee, Milford, Waltham, Weymouth; towns having between 7,000 and 9,000: Dedham, Malden, Marlborough, North Bridgewater, Peabody, Quincy, West Roxbury, Woburn; towns having between 5,000 and 7,000: Amesbury, Andover, Attleborough, Blackstone, Brookline, Clinton, Medford, Natick, Randolph, Southbridge, Westfield.

It will be noticed that most of these towns are the seats of flourishing manufacturing and mechanical establishments and contain large numbers of persons of a character to be benefited by schools for teaching drawing. While these towns are not required to maintain such schools, yet they have ample authority for it in the provisions of the act. I cannot but hope that many will avail themselves of the opportunity thus opened to them.

The value of drawing as a practical study is fully indorsed by the secretary, as follows:

I confess that I have a deep interest, not to say anxiety, in regard to the manner in which the first requirement of the statute, to wit, the general introduction of drawing as a branch of school study, shall be regarded by those who have the responsible charge of the schools throughout the State, for practically the whole matter of conformity to this, as to nearly every other statutory requirement, rests with them. Wherever the school committee are convinced of the desirableness and practicability of introducing any study into their schools it will be introduced. Wherever the committee fail to appreciate its importance or are simply indifferent in relation to it the study will not be introduced.

It is therefore with reference to these points, the value of "drawing as a branch of learning" and the practicability of introducing it into the public schools as the law requires, that I invite the special attention of the school committees to some of the considerations bearing upon them.

I am aware that in the examination of this subject we are confronted with the notion, inherited from a former period, that drawing is not a practical study, but one solely ornamental, an accomplishment to be sought for by the fortunate attendants upon the fashionable academy or boarding school.

Nevertheless, progress has been made and more rational views are beginning to prevail. Thanks to the enlightened advocates of better systems of training; thanks to the examples of other nations, where the philosophy of education has made greater advances than with us, drawing is now beginning to assert its rightful place in our educational system also. The act of 1858, which authorizes its introduction, and that of 1870, which requires it, are proofs of this.

In presenting the claims of this act for a favorable acceptance, it will not be my purpose to urge them by any elaborate reasoning or statement of my own opinions, but rather to call attention to the statements to which I have already referred.

And first of all, I confidently invite a careful perusal of the several documents printed in the appendix, particularly those comprising the pamphlet of which I have spoken as having been printed by the order of the legislature. These papers contain the matured opinions of some of the ablest professors and teachers of this branch of study in New England, whose thorough acquaintance with it in all its relations and applications entitles their opinions to the highest consideration.

The secretary quotes freely from letters received from Professor Bail and Mr. Northrop, of Connecticut, and from Mr. Henry C. Chamberlain, of Worcester. He then proceeds as follows:

The value of a knowledge of mechanical drawing to the artisan himself, as an indispensable requisite of success, is clearly stated in the following language addressed to the secretary by General John C. Palfrey, superintendent of the Merrimack Manufacturing Company at Lowell, whose education at West Point and successful experience in the United States service as constructing engineer give great weight to his opinions:

A knowledge of mechanical drawing is invaluable to all constructors, whether employers or employed, and of constant use in ordinary affairs. In all matters of construction, in the widest sense of the word, it takes the place of a knowledge of reading and writing in the other concerns of life and is indispensable for giving and receiving intelligible ideas. A mechanic who is without it will almost always be subservient and inferior to one who has it but is his inferior in all other respects. A man rarely becomes a competent master mechanic without some knowledge of it. It affords means of representing any combinations of forms with such accuracy and minuteness as to convey as clear an idea of the thing represented as the thing itself could if present to the senses, and thereby saves the delay and expense of experimental or tentative constructions and the inconvenience or impossibility of using the thing itself for explanation or examination. It is the only way of directing one's own or other's labor in construction exactly to any desired result.

Francis C. Lowell, esq., and Rev. Edward E. Hale, of Boston, to whom the State is chiefly indebted for originating the legislation in favor of drawing, thus speak of its relations to our industrial pursuits:

It will be impossible for Massachusetts long to maintain any eminence in the higher manufactures if the great body of workmen of other countries are the superiors to our own in the arts of design, in the drafting of machinery, and in the habits of observation which spring from such accomplishments. It is already observed by manufacturers here that for any processes which involve a knowledge of the arts of design they are almost always obliged to engage Englishmen, Frenchmen, Belgians, Germans, or Italians. The demand for such instruction on the part of our own people shows that they are themselves aware of its necessity and unwilling to remain in the comparative inferiority to which our present system subjects them. The several classes maintained in this city are always full.*

The last paragraph is quoted here for its testimony as to the advocacy of the movement by Mr. Lowell and Rev. E. E. Hale.

After other quotations, the secretary continues:

I have thus presented an array of testimonials from the highest sources to the value of "drawing as a branch of study," whether taught in the public or in special schools, which cannot fail to arrest the attention and command the assent of the most obstinate unbeliever.

It remains to inquire, Is its general introduction into the public schools practicable? Can it be effected without the exclusion of some one of the branches which tradition and experience unite in pronouncing "fundamental," and that, too, at a cost not disproportionate to its comparative importance? To these and all similar inquiries, I reply unhesitatingly and confidently, Yes. And as proof, I am happy in being able to point to large numbers of the best conducted schools in the Commonwealth wherein drawing has found its true place and is successfully taught with the precise results claimed for it in the foregoing pages.

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* For details of free evening drawing schools of Boston see page 55 of this report.

I can also point to the fact that drawing, as I have said in another place, holds an important place in the systems of instruction in every nation of Central and Western Europe, and in some of them, as in Prussia, has done so for more than a hundred years. And surely there is nothing in the character and pursuits of our people or in the structure of our society to forbid its introduction here.

No more talent or skill is required to teach it than is needed in teaching the other common branches, and the same general principles apply.

In the primary schools primary lessons are to be given—the simple elements, as points, lines, angles, and regular figures, on a plane surface, requiring only the crayon and pencil. In the higher grades there will be a higher grade of instruction, for which the pupils will have been prepared; and in the technical schools and in the special classes the instruction will be adapted alike to the acquisitions already made and to the varied occupations and tastes of the learners; precisely as in arithmetic, the child in the primary class is first made to comprehend the simple idea of number, as one and two, and passes upward by easy and regular steps, from simple combinations to the more complex, till he has become master of the science by whose aid he weighs the earth and measures the stars. In each the same law of growth is followed which obtains in the natural world, so beautifully used by the Great Teacher to symbolize that which also obtains in the spiritual: "First, the blade, then the ear, after that the full corn in the ear." But on this point, as on the previous one, I resort to testimony. Ariel Parish, esq., formerly a member of this board and now superintendent of public schools in New Haven, gives an account of the introduction of drawing into the schools under his charge which I present as a practical method and easily adopted. In a letter to myself in September last he says:

> A little more than two years ago the board of education of this city voted to introduce drawing into the public schools. Very few of our teachers had any practical knowledge of the subject; scarcely any were competent to give even elementary instruction. At the request of the board, Professor Bail gave a brief course of instruction to all our teachers in preparation for teaching the pupils of the schools.
>
> We have passed through what we regard as the successful experience of two years, and find our teachers as capable of teaching drawing as giving instruction in penmanship or arithmetic, when the same care is employed and the same interest and determination to secure success are felt by the teachers.
>
> We now have drawing taught to about 7,000 pupils, from the little abcdarian up to the highest classes in the high school.
>
> I am glad to believe, from the evidence we have before us daily, that it is a practical thing to have drawing taught in all our schools when tho sentiment of the community shall demand it.

Agreeing with the method employed at New Haven is the plan recommended by Mr. Chamberlain, a part of whose communication I have already given:

> A well organized system would contemplate a thorough course of instruction in drawing to all the pupils of the normal schools, but as it would require time to bring about any practical results from this course a more feasible plan would be to require the teachers in all the public schools to learn the art both of drawing and of giving instruction from some competent teacher to be provided by the towns, care being had that the elementary instruction should be based on correct principles of art rather than that the teacher should be required to meet a high standard of proficiency in the art.
>
> If there should be demand for his services, the instructor of the school teachers might also give instruction to such other learners as did not attend the public schools.

This is the plan adopted in Boston, and for several years in successful operation in the departments of music and elocution. It is simply the employment of special teachers, not to give instruction to the pupils in the schools, but to the regular teachers themselves, and to superintend their work. In this mode, at small cost, drawing can gradually be introduced into all the public schools. For while to many towns it would be a serious burden to employ special teachers continuously, there are but few in which such teachers cannot be employed for brief periods to give the necessary instruction to the teachers in the processes of free-hand drawing.

Moreover, drawing is taught as a part of the regular course in the normal schools, and it is the purpose of the board that it shall be systematically pursued to such an extent that no pupil be allowed to graduate who shall not be competent to teach whatever is desirable to be taught in the common schools. These graduates are widely scattered, and in whatever town any one of them is found it will not be difficult for the committee to arrange that the other teachers receive instruction and assistance from such. In the teachers' institutes, also, instructions in drawing will be given to a greater extent than hitherto, which will in some good measure it is hoped supply by useful suggestions and model lessons the lack of more prolonged and thorough training. It may be deemed important, especially if the desire for it is expressed in any community, to organize institutes for the special purpose of teaching drawing with music and elocution. I can readily conceive that such a meeting might be made exceedingly interesting and profitable.

Lastly, it is proposed, if the legislature grant the means and the right man can be secured, to send a thoroughly instructed agent into every section of the Commonwealth whose special business it will be to explain this subject in all its relations more fully than can be done by the written treatise and to give advice and instruction in respect to the best methods of organizing classes and of teaching. Through the aid of these various instrumentalities I am confident that the object of the law can be secured and "drawing as a branch of learning" be taught in all the public schools of the Commonwealth.

I have thus, at greater length than I proposed in the outset, presented the more obvious claims of the act of 1870 "relating to free instruction in drawing" to a cordial acceptance by the people. I am painfully impressed with the incompleteness of the discussion, and, owing in part to the method pursued, with its lack of coherence and logical order. Nevertheless, if, with the aid liberally drawn from others, enough has been done to attract attention and arouse inquiry, I am content to commit the subject to the judgment of those whom a general intelligence and solid sense rarely fail to guide to just conclusions.

JOSEPH WHITE.

BOSTON, *February*, 1871.

The report to the legislature made by the board of education, which, with the accompanying papers, formed the appendix to the secretary's report, is here given as an historical document. The additional papers, as will be inferred from the list of their authors, formed a valuable contribution to the discussion and to the literature of the subject, but as, either in this Thirty-fourth Annual Report of the Massachusetts Board of Education, or in the pamphlet form as issued by the legislature,* they are readily accessible, they are not here included. From the papers of Mr. Thompson and Professor Bail, many later writers upon topics relating to industrial and technical education have freely drawn.

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* Industrial or Mechanical Drawing. Papers on Drawing. Printed by order of the legislature, under the direction of the board of education. Boston: Wright & Potter, State printers, 79 Milk street (corner of Federal). 1870. pp. 51.

[Appendix A to the Thirty-fourth Annual Report of the Secretary of the Massachusetts Board of Education.]

To the honorable the Senate and House of Representatives of the Commonwealth of Massachusetts :

The board of education, in obedience to a resolve of the last legislature, which is as follows, to wit—

[Chap. 80.]

Resolve relating to provision for free instruction in mechanical drawing in the cities and large towns of the Commonwealth.

Resolved, That the board of education be directed to consider the expediency of making provision by law for giving free instruction to men, women, and children in mechanical drawing, either in existing schools or in those to be established for that purpose, in all towns of the Commonwealth having more than five thousand inhabitants, and report a definite plan therefor to the next general court.

Approved June 12, 1869 —

respectfully submit the following report:

Said resolve was passed in response to a petition signed by several well known and highly respected citizens, distinguished for their interest in popular eduction, and for their connection with those great branches of mechanical and manufacturing industry which absorb large amounts of the capital and give employment to great numbers of the residents of the Commonwealth. The petition is as follows:

To the honorable General Court of the State of Massachusetts :

Your petitioners respectfully represent that every branch of manufactures in which the citizens of Massachusetts are engaged requires, in the details of the processes connected with it, some knowledge of drawing and other arts of design on the part of the skilled workmen engaged.

At the present time no wide provision is made for instruction in drawing in the public schools.

Our manufacturers therefore compete under disadvantages with the manufacturers of Europe, for in all the manufacturing countries of Europe free provision is made for instructing workmen of all classes in drawing. At this time almost all the best draughtsmen in our shops are men thus trained abroad.

In England, within the last ten years, very large additions have been made to the provisions, which were before very generous, for free public instruction of workmen in drawing. Your petitioners are assured that boys and girls by the time they are sixteen years of age, acquire great proficiency in mechanical drawing and in other arts of design.

We are also assured that men and women who have been long engaged in the processes of manufacture learn readily and with pleasure enough of the arts of design to assist them materially in their work.

For such reasons we ask that the board of education may be directed to report in detail to the next general court some definite plan for introducing schools for drawing or instruction in drawing free to all men, women, and children in all towns of the Commonwealth of more than five thousand inhabitants.

And your petitioners will ever pray.

JACOB BIGELOW.	JOHN AMORY LOWELL.
J. THOS. STEVENSON.	E. B. BIGELOW.
WILLIAM A. BURKE.	FRANCIS C. LOWELL.
JAMES LAWRENCE.	JOHN H. CLIFFORD.
EDW. E. HALE.	WM. GRAY.
THEODORE LYMAN.	F. H. PEABODY.
JORDAN, MARSH & CO.	A. A. LAWRENCE & Co.

BOSTON, *June*, 1869.

Being deeply impressed with the importance of the subject thus committed to them, on account of its relations to the improvement of our system of general and popular education, no less than of its vital connection with the successful progress of the varied manufacturing industries of the Commonwealth, the board referred said petition and resolve to a special committee, consisting of Messrs. David H. Mason, John D. Philbrick, Gardiner G. Hubbard, and the secretary, with instructions to make all needful inquiries and investigation, and to report their conclusions thereon for the consideration of the whole board.

At a meeting held on the 9th of March last, said committee, through Mr. Mason, the chairman, reported as follows:

After a conference with Messrs. Hale and Lowell, on behalf of the petitioners and with other gentlemen interested in the subject, in which the views of the petitioners were fully explained and elaborately set forth in a carefully prepared bill to be presented to the legislature, the committee deemed it advisable to seek for further information and suggestions from gentlemen of well known experience and skill in this department of instruction, and accordingly prepared the following circular:

"BOSTON, *December* 27, 1869.

"*To* ——— ———:

"DEAR SIR: At the last session of the legislature of Massachusetts the following resolve was passed. [See the resolve above.]

"It is presumed that the term 'mechanical drawing,' as used in the resolve, is intended to comprise all those branches of drawing which are applicable to the productive or industrial arts.

"In the investigation of this important subject, it is deemed desirable to procure the opinions and views respecting it of such persons as are most competent to consider it from different standpoints. You are therefore respectfully requested to favor the board of education with your observations on the matter under the following topics: (1) The advantages which might be expected to result from the contemplated instruction in mechanical or industrial drawing; (2) the course and methods of instruction appropriate for the objects in view; (3) the models, casts, patterns, and other apparatus necessary to be supplied; (4) the organization and supervision of the proposed drawing schools; (5) the best means of promoting among the people an interest in the subject of art education; (6) any other remarks relating to the subject not embraced in the foregoing topics.

"Please direct your reply to the secretary of the board of education, at the State house.

"Very truly, yours,

"D. H. MASON,
"JOHN D. PHILBRICK,
"G. G. HUBBARD,
"JOSEPH WHITE,
"*Committee of the Board of Education.*"

The above circular was sent to various gentlemen whom they considered best qualified to give advice and information upon the topics named therein. In most cases very elaborate and prompt replies were received, giving valuable opinions and plans as to the best methods of instruction in mechanical drawing as defined in the circular. These documents contain nearly all that can be said upon the subjects and are respectfully submitted to this board for their consideration.

The committee then proceed to urge the need of instruction in drawing in all public schools, and recommend the enactment of a law requiring it; they also advise the publication of all or a part of the communications received by them in reference to the subject.

Your committee are more than ever impressed with the importance of urging upon the people of the Commonwealth the introduction of free hand drawing into all our public schools.

It cannot be denied that the almost total neglect of this branch of instruction in past times has been a great defect in our system of education.

While great progress has been made in general and practical knowledge, the taste and love for the arts and art culture generally have not much improved.

That we are far behind many other nations in all the means of art culture is very evident. We have few models or museums of art in our country to which students can resort for study and instruction.

Our native artisans and mechanics feel this sad defect. Foreign workmen occupy the best and most responsible places in our factories and workshops. Our most promising students in sculpture and painting are compelled to seek in other countries the advantages which are necessary to their success, and when they become distinguished they elect to remain where they can receive the greatest encouragement and the highest appreciation of their skill and genius. Our State and country need the influences of refined art culture. Before we can reach a very high position, a generation at least must be educated with improved tastes and a more general appreciation of the nature and value of true art culture must prevail amongst the people. Much can and must be done for the present generation of mechanics and artisans. In all our large towns and cities where a sufficient number of adult pupils can be found schools should be established and every encouragement afforded for improvement in those branches of drawing which belong to the industrial arts.

Agents could be employed to go through the Commonwealth and interest the people in this most important subject. Wherever evening classes can be formed of the young or old free instruction should be furnished in free-hand drawing, and in a few years our enterprising people will begin to discover in our own communities and schools as good artists and artisans as can be found in the most favored portions of other countries.

We have no doubt that the greatest good will be accomplished by proper instruction in our public schools and that our chief efforts should be directed towards this end. Teachers should be required to be qualified to instruct in free-hand drawing, and the work should be begun in the primary departments and should be continued with zeal and fidelity through the period of school life.

We earnestly commend this subject to the consideration of this board, and we trust that the secretary will be requested to make such extracts from the communications referred to as he may think best and to submit them to the legislature under the authority of the act referred to, with such plans and recommendations as to the passage of a law regulating instruction in industrial drawing as shall be most conducive to the desired result.

The report thus presented was adopted as expressive of the views of the board, and it was voted that the following action be respectfully recommended for the consideration of the legislature, viz:

(1) An enactment requiring elementary and free-hand drawing to be taught in all the public schools of every grade in the Commonwealth; and which shall further require all cities and towns having more than —— inhabitants to make provision for giving annually free instruction in industrial or mechanical drawing to men, women, and children in such manner as the board of education shall provide.

(2) A resolve to authorize the printing, in pamphlet form, under the supervision of the board of education, of the communications above mentioned on the subject of drawing or of such portions of them as may be deemed advisable for the use of the legislature and for distribution by said board of education.

The board are aware that the action recommended falls far short of that contemplated by the petitioners and embraced in the draught of a bill presented by their committee for the consideration of the board. Nevertheless, it is a beginning, and the steps are in the right direction. They are easily taken and involve but a comparatively small expense, and will lead, as the attention of the public shall be directed to the matter, to the adoption of the more comprehensive and complete arrangements designed by the petitioners.

It is not deemed necessary to repeat or enlarge upon what is so well said in the foregoing memorial of the petitioners and the report of the special committee on the importance of making provision for teaching drawing in its various departments in all our systems of education. It is sufficient to say that the opinions of the board are in full accord with those alluded to. The communications herewith presented bear full and emphatic testimony to the same effect.

A single example, bearing more directly upon the first of the foregoing recommendations, may be given from the letter of Rev. Charles Sewall, an able educator and chairman of the school committee of Medfield. He says:

Of the importance and utility of such a measure I entertain no doubt. I have long been questioning others and considering myself how this might best be done in the schools of this town. I have observed here many instances of peculiar aptitude for sketching and drawing upon the blackboard. Quite young children sketch capital representations of animals, houses, steam cars, etc. Older children draw very correct maps with great facility, indicating a power which, rightly directed, and a taste which, properly cultivated, might lead to acquisitions of great practical benefit in after life. The important art of penmanship appears to be most easily acquired, also, by the same class of scholars. And the possession of facility and excellence in both of these arts will prove an advantage, in after life, for which much that is now acquired in common school education will be no equivalent."

In reply to the question, "Have we time for such thorough instruction in the brief terms of our schools?" Mr. Sewell suggested the following method of conducting our schools, which would seem to be worthy of careful consideration and experiment:

It strikes me forcibly that in our grammar schools we might confine the intellectual exercises of a certain class — such as arithmetic, grammar, geography, etc. — to the *forenoon session*, and devote the afternoon entirely to reading, writing, drawing, and music. A large part of our youth obtain in these schools all the education they will ever have to prepare them for the practical business of life. The highest possible attainments in these last branches are therefore of as much importance and utility as in the others.

The adoption of this plan would render school exercises more interesting. The necessary draft upon a certain class of powers, day after day, and continuously throughout the term, is apt to weary and injure the scholar. My plan would obviate such an effect and prove, I think, a grateful and beneficial change of the present routine.

With these opinions it is believed all intelligent practical educators will agree.

In those countries of Europe whose systems of education are most distinguished for completeness and thoroughness and in this respect far in advance of our own, careful instruction in drawing is given in every grade of their schools from the primary village school to the university. And so it should be with ourselves.

Indeed, something has already been accomplished here. Under the statute provision which permits its introduction, drawing is taught with a considerable degree of success in many of our public schools.

We would have this practice become universal; and, in furtherance of this end, drawing should take the place in the statutes as a required study in all the schools. Let it once be understood that ability to teach this, no less than grammar or arithmetic, will be demanded of all who seek employment as teachers, and those who are now engaged in the work and all who are looking to teaching as a calling, will set about the work of preparation. And there will be no lack of facilities. Instruction in this branch has always been given in the normal schools, and it will be the business of the board to make it more thorough as the wants of the community shall require. The various city and town training schools are now furnishing and will continue to furnish valuable aid. In like manner, the numerous high schools and academies, where the larger number of our teachers are educated, will furnish increased and needful facilities, so that in a brief period there will be no lack of competent teachers of elementary drawing at least. Meanwhile, we may confidently look for teachers of a higher grade to the scientific schools of our own and the adjoining States.

The number of cities and towns in the Commonwealth having, as shown by the last census, more than 10,000 inhabitants is sixteen.* This includes all the cities. The number of towns having less than ten and more than six thousand inhabitants is twenty-two. Several of these will doubtless be shown, by the census soon to be taken, to have a population of over 10,000. In most of these thirty-eight towns and cities the population is largely employed in manufacturing and mechanical labor. Moreover, in many of them evening schools are kept in the winter, and should be kept in all of them. There can be, therefore, no serious difficulty in the way of making all needful provision for courses of free instruction in industrial or mechanical drawing in these cities and towns.

The secretary thus testifies to the successful working of the free evening drawing schools:

The practicability of the measure proposed is no longer one of theory alone. Experiments have already been made and with such marked success as to leave no room for doubt.

Free instruction in drawing has been given in connection with evening schools for the last two winters in Boston. Of the first year's experiment Messrs. Hale and Lowell, the committee of the petitioners, remark: "When, last year, the city of Boston announced a free class at the church of the Good Samaritan, one hundred and sixty applications were made at once, and the list of members was necessarily closed for want of accommodations for pupils." There has been no diminution in interest or in attendance during the season just closed. The classes conducted at the School of

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* Twenty-three by last census.

Technology, under the auspices of Hon. John A. Lowell, one of the petitioners, have always been fully attended, especially by large numbers of mechanics.

During the present season a voluntary class has been formed at Fitchburg and instructed by a member of the Worcester Free School of Industrial Science with the most gratifying results. The expense of annual courses of lessons in drawing given in connection with the evening schools will be small, very small, when compared with the results which may be justly expected from them. Let these schools be opened in all our manufacturing towns, and most of our large towns are such, and we may expect to find: (1) A great improvement in respect to the taste and skill exhibited in the various products of industry; (2) A rapid multiplication of valuable labor saving machines; and (3) better than all, an increase of the numbers and a manifest advance in the intellectual and moral condition and character of the artisans themselves.

In proportion as the intellect asserts its sway over mere force, as the cultivated brain controls the hands, labor ceases to be a drudgery and becomes a source of pleasure and delight; it is no longer a badge of servility, but an instrument of power. The possession of practical science, of a cultivated taste, with the power skilfully to apply them in the production of whatever supplies the wants and ministers to the comfort and gratifies the pure tastes of the community, will give dignity and attractiveness to artisan life. The ranks will be kept full. Recruits will come from unexpected quarters. There will be more of enlistment and less of conscription. Our generous youth, with no capital but intellect and energy and hope, will in lessened numbers crowd the overburdened professions or beg, hat in hand, for subordinate places in the counting-rooms of the merchant and banker, and will enter the ranks of the workers, where labor and invention may win new victories in the domain of nature, and where, at the least, a life of intelligent and honest industry will ever earn the less dazzling, but solid rewards of competence, of respectability, and of a manly independence.

It only remains to add that the papers herewith presented have been prepared, as already stated, by several of the ablest professors and teachers of drawing and embody suggestions and opinions of very great value. It is believed that the publication and wide distribution of these documents or of selections from them will do much towards creating a just public opinion on the topics of which they treat.

Respectfully submitted in behalf of the board of education.

J. WHITE, *Secretary.*

BOSTON, *April*, 1870.

The topic of drawing receives attention in the reports for the year 1870 of seven of the cities and towns of the State, namely, Cambridge, Charlestown, Fall River, Lowell, Northampton, Salem, and Worcester.

Mr. E. B. Hale, superintendent of the city schools of Cambridge, anannounces the introduction of drawing as a regular study in all schools below the high school and is gratified at the earnestness and interest shown and success already achieved by both teachers and pupils. Summing up the varied influences of a knowledge of drawing he says, "We cannot hesitate to accord it a place among the practical studies."

Mr. J. H. Twombly, superintendent of public schools of Charlestown, announces the introduction of the study in all the schools.

Mr. Tewksbury, of Fall River, states that most of the cities of the Union have adopted the study, and among reports from twenty cities favoring the study quotes from those of Cincinnati and Louisville, each setting forth the success of the experiment in their schools.

Mr. John A. Goodwin, chairman of the committee on reports of the city of Lowell, discusses at length the conditions of the school building and its surroundings requisite for health and the need of trained teachers; as he illustrates this by examples of the wrong and right method of training in the primary schools, rightly including drawing as among the first studies to be taught in schools in which the suggestions of nature are heeded, his words on this whole matter of primary schools are here quoted:

> It is most difficult to find excellent teachers for the primary schools. Many a person who can do pretty well in the other grades has too little educational talent for the primaries. It is here that the child comes after some five years of growth, during which by handling, tasting, breaking, joining together, or otherwise experimenting, he has acquired pretty clear and decided notions as to everything within his reach, and, by the persistent asking of questions, has carried his ideas up to and even beyond the range of his vision. Now that he appears for the first time in the schoolroom, there are at least two methods of treating him. The common one is to pay no attention to what he has already learned of things in general nor to the manner in which nature has been educating him, but to tie him down to books written in a language he cannot well comprehend, presenting ideas of which he knows nothing and for which he cares nothing, in a manner totally different from his natural habits of learning things and which are entirely foreign to his little range of thought. Sometimes he resists the influences about him and contrives to make some mental growth and have some ideas of his own, when he is called a "singular child," which he doubtless is; sometimes he becomes stupidly indifferent, but more frequently he degenerates into a little machine of great irregularity, giving up the habit of thinking for himself, adopting the practice of learning words by rote like a parrot and receiving praise according to his power of rattling them off when called upon, though they may be and very often are totally disconnected in his mind from any clear idea whatever.
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> This process of counteracting nature, of benumbing the reasoning powers, and of creating deep disgust for school and for learning, is by many parents and teachers, strange to say, termed primary education. Were it ironically called so, we might well admire the satire.
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> The other method alluded to of treating the beginner may be found practised to a greater or less extent in many of the primary schools of our city. The teacher at once finds out what the child already knows and proceeds to teach him after nature's plan, while giving instruction a higher range and a constantly widening field of action. By counting marbles, apples, books, and pictured objects, and by making, changing, and comparing groups of them, he begins to know numbers. By handling and counting 10 cents he learns the value of the dime and by using dimes finds their relation to the dollar. By several times turning a pint dipper full of sand twice into a quart pot, and the quart measure of sand four times into a gallon vessel, he discovers the facts of liquid measure. A few flat inch blocks answer for architectural playthings when school duties permit; next, by measuring books, slates, and pencils with them, he learns the exact value of the inch; he eagerly finds that twelve of his blocks equal a foot measure, then that three times the foot make a yard, and that five and a half times the yard stick equal the rod measure placed on the side of the room. In this and similar ways he acquires a sure foundation for the study of arithmetic. Through general object lessons, on geometrical figures in pasteboard, from pieces of rock, or wood, or cloth, from metallic articles, from fruits and flowers, and finally from less simple and less common things, he learns of the form, size, weight, color, strength, value, use, and the origin or method of obtaining or manufacturing hundreds of articles, and he acquires habits of observation, of inquiry, of analysis, and of reflection that will be of immense value in his subsequent education and indeed through all his life.

In connection with the reading lessons all the scholar's knowledge is called out, every word being understood and every allusion explained, especially such as bring in little sketches of biography or bits of natural history, so uniformly attractive to children. Geography, by this method, is mainly taught by expanding what the child already knows. He has seen brooks and ponds, hills and plains, and if he has never seen islands, capes, bays, and peninsulas, a little encouragement will lead him to discover a score of them by the road side on every rainy day. This latter very humble source of geographical illustration, has been extensively and most successfully used by some teachers within our knowledge.

Then, too, from first entering school the scholar draws. First come lines and simple figures; soon little sketches cover the blackboards, and at length the pupil draws as readily and uniformly as he writes, and on entering the world feels it as much a matter of course to give a pictorial description of his meaning on most things as to give a verbal one — a wonderful power, readily acquired, but how astonishingly neglected.

Finally, through the whole course, the scholar is led, so far as may be, to discover or to look for the next step to be taken and to feel the constant logic of events. While this is done the child's interest is kept up, the acquisition of knowledge becomes a pleasure, and with each new point gained comes the desire to learn more. By this system learning forgets something of its ancient hostility to recreation, profit is akin to pleasure, and the school less widely separated from the fireside.

Such teaching as we have briefly outlined can only be well done by a clear head and a warm heart. It requires a person of energy, of cheerfulness, of a wisdom in little things that great men often lack, and of an enthusiastic love of the work, combined with a high degree of educational talent. First impressions being the strongest and children being in the primary schools at the most impressible age, imperfect instruction and wrong training there are far less easily outgrown than when received in either of the subsequent grades. A right beginning is no small protection against the bad effect of after wrong handling. It is, therefore, of the first importance that the best teaching talent to be found should be secured for the primary schools and that the community should give the teachers there to feel that they are considered as filling the most responsible and honorable place in our educational system.

Mr. J. P. Averill, superintendent of the schools of Northampton, makes the following sensible and discriminating suggestions as to the desireableness and utility of a knowledge of drawing, even so slight a knowledge of it as those pupils who remain in school but the shortest period can acquire:

Drawing and penmanship are kindred branches. In their practice, the same faculties of mind and the same physical muscles are called into exercise. The power to draw and the power to write depend equally upon education. No one is born a draughtsman any more than he is a writer.

I am far from claiming that all will learn equally well or equally rapidly in this more than in any other study. Indeed, there was never a class in any branch of education without a head and a foot. But I do claim that as large a proportion of our children would learn to draw well as would learn to write well, were they as well and properly taught. No one expects that our youth will be made poets and authors simply by going through college, but unquestionably all are much benefited by the discipline of such a course of study. So in this branch of education, doubtless those who do not excel in it will be much benefited by instruction and practice.

We do not sufficiently recognize how universal is the love of art, even in little children. What delights a child more than a picture book? Who has not seen his face light up at sight of the picture of a familiar object? As soon as he gets hold of pencil or chalk, he begins the practice of drawing. If slate or paper is not at hand, a fence or door is made to answer his purpose. And here, allow me to say, I have been surprised and delighted with the variety and good proportion of the objects that the little ones in some of our primary schools will put upon slate and blackboard, with the use of a few straight lines. Let the children be encouraged, then, in their love of drawing. Let them be furnished with suitable materials, and let them be early and properly taught the rudiments of this most useful art, during their school days, beginning in the primary schools, and there can be no question that the great majority of them will be able to express the truths of form as correctly and forcibly in the language of art as in the use of words.

The great majority of the children of our public schools remain there but a short time, only a few, compared with the whole, staying to complete a full course of instruction. This being true, it seems the part of wisdom to direct their attention to those studies which promise most for their future usefulness and the practical duties of life. After we have included language, writing, and arithmetic in the list of required studies, what can be added that will be of more practical advantage to the child than drawing? By drawing, I mean the ability to represent upon a plane surface any object which a person may see or remember to have seen or of which he has a clear conception in his own mind. We may safely assert that there is no man of business or leisure who has not many times regretted his ignorance of drawing, either when he has wished a house built, an article of furniture made, a garden laid out, or when he has desired to preserve the remembrance of some locality or some edifice or work of art. We are a nation of mechanics, and where is the industrial profession that has no need of a knowledge of drawing. The joiner, the cabinet maker, the milliner, the mantua maker, the carpenter, the builder, the machinist, the florist, the embroiderer, the manufacturer of tasteful fabrics, the potter, the crockery maker, and a host of others, are but imperfectly acquainted with their occupation if they are strangers to this art. A practical knowledge of this develops habits of order and neatness, imparting a taste which enables them to select beautiful designs, thereby impressing their works with that seal of elegance which renders them sought after.

The mechanic with an educated eye possesses an element of power totally wanting in one whose eye is untrained. The one commands $100 per month for his services, the other $40; thus education in this direction becomes a matter of dollars and cents.

Our children of to-day are to be the men and women of a few years hence, and could this branch of instruction be well and thoroughly taught in our schools, it would prove an immense national benefit in elevating the standard of public taste, as well as raising the standard of excellence in all mechanical pursuits.

Mr. Henry J. Cross, chairman of the visiting committee of Salem, speaks thus of drawing:

Early in the year, by order of the board, drawing was made a regular branch of instruction in the grammar schools, and after much opposition and discouragement is now steadily growing in favor. It is a common mistake to consider drawing a fancy study. On the contrary, it is one of the most utilitarian of arts. Its value has long been recognized in many European countries, where it is deemed equally essential with reading, writing, and arithmetic in a system of elementary education, even in the public evening schools for the poorer classes. The superior elegance of many articles of foreign manufacture has been attributed, perhaps justly, to the general instruction of the workmen in the arts of design. As an educator of the eye and hand, the noblest servants of the brain, it has no equal. Whether the slow and vigorous method now pursued in our schools is best adapted to their wants, and whether the art can be successfully taught by those who have no skill in its practice, experience must determine.

Mr. J. Kimball, the superintendent, recounts the history of its introduction in the Salem schools, as follows:

The vote of your board in accordance with which drawing was made a regular study in all the public day schools was passed February 15, 1869. About the middle of April preliminary lessons were given to the teachers by a lady who came for that purpose at the offer of the publishers of Bartholomew's system, the one adopted. Since that time the grammar and high schools have had regular exercises in this branch, with varied results. Teachers who have believed that this art should be attempted by those only who have a natural taste for it, and have been discouraged by imperfect efforts when expecting too much, will not exaggerate its success. Small as has been the time allotted to it and inexperienced as were the teachers whose duty it became to attend to it, it cannot be called a failure. I have had copies from every school selected with reference to their excellence and their deficiency, have examined them carefully, and come to a far different conclusion. We ought not to doubt that the system used—starting with straight lines in varied positions, giving much discipline to hand, eye, and perception—will, as it becomes more familiar, develop an amount of ability in this direction we have not suspected. No one presumes that every boy and girl who goes faithfully through the author's first book will be an eminent artist; but he will acquire in a degree not possessed before a facility in judging of spaces, in marking definite positions, in a steady command of the muscles, and in following a moving point that he had not at first, added to a confidence in the possibility of future progress and a knowledge of the steps to secure it well worth his time and expense.

Some teachers have already expressed themselves in terms more favorable than at first could have been hoped, and I believe as each one surmounts the unavoidable vexations incident to the introduction of a new study, such expression will become stronger and more general.

Mr. A. P. Marble, the experienced superintendent, of Worcester, advocates the study in the following eloquent words:

Like music, this study has not, till recently, been introduced into the public schools, and both, when once they are introduced and the benefits resulting from them are known, will always be continued. Both are in some sense fine arts; and drawing especially also a very practical art, like writing. In our schools drawing, which has been taught since last May, alternates with writing. The idea of form as well as the command of muscle required in drawing is directly useful in writing. And thus far the results fulfil the expectation at the beginning, that no less progress would be made in writing because of the time spent in the other study. In our schools pupils are not taught to copy pictures, as some suppose; by practice on simple copies gradually increasing in difficulty, the eye is educated to judge of forms and distances with accuracy and the muscle is taught to obey the will. To those who have not considered the subject, it is surprising to find in what a variety of occupations this simple art is useful. In the words of an eminent educator, "Skill in drawing has an intrinsic and practical value. It is of great importance in all pursuits conversant with the external forms of things, and to many trades and professions, including all scientific mechanics, it is quite indispensable. It is useful to the architect, the master builder, and almost every mechanic, in drafting his plans, making contracts, and calculating the cost of construction. The pattern rooms in our machine shops and foundries, in the print and carpet factories, in the jewelry and plate works, the engraving and paper-staining establishments, in the arsenal and armory works, and many other manufactories, will indicate in part the numerous and important uses to which the competent draughtsman applies his skill. I pass over its obvious uses in all inventions, in surveying, in map drawing, in civil and military engineering, and other pursuits; for there is scarcely any calling in which this art would not find a useful application. But these practical uses of drawing, valuable as they seem, are of minor importance compared with its influence in educating the mind." To educate is to develop the powers. What power is the source of greater profit or delight than that by which we distinguish the beautiful in form and feature! It is through the eye that some of our most refined ideas of the grand and the beautiful are derived. The eye opens to us those fields of infinite space through which we peer from this little orb far towards the throne of the Eternal. And what instrument of such facile motion and delicate adjustment as the hand! The hand is the prime minister of the mind, executing its behests and by its new creations leading the mind to higher development. All civilization rests upon the structure of the human hand. Had this been formed like the hoof of an ox, there would have been the end of all human ambition and greatness.

Such are the powers of the hand and the eye. Shall the education of these be neglected?

The passage of the law in 1870 was followed by a marked increase of interest in the subject, as evinced by its discussion in the reports of the school committees.

The Thirty-fifth Annual Report of the Board of Education, for the year 1871, contains extracts relating to the new study from the reports of no less than 45 towns and cities, while 50 in the Thirty-sixth, 33 in the Thirty-seventh, 23 in the Thirty-eighth, and 45 in the Thirty-ninth (that for 1875) treat this topic at greater or less length, and are for the most part enthusiastic over the success of the experiment. Want of space alone prevents free quotations from this mass of valuable concurrent testimony.

THE VARIED AND LABORIOUS DUTIES OF PROF. WALTER SMITH AS CITY SUPERINTENDENT OF DRAWING AND STATE ART DIRECTOR.

Prof. Walter Smith, who had been called in 1870, from the head mastership of the Government school in Leeds, England, to take supervision of the introduction of the study in the city schools of Boston, had been also jointly employed by the State, and was made State director of drawing. His duties, equitably divided between his two employers, the city and the State, were as State director to visit those cities and towns which were by law compelled to introduce drawing, and by lectures and "teachers' institutes" to initiate the teachers in their new duties; to visit the State normal schools; to organize and set in motion the evening classes in industrial and mechanical drawing; subsequently, to organize and take charge of the Boston Normal Art School. The director also prepared carefully arranged schedules of instruction for the public schools, through all grades; as well as courses of study for the evening drawing schools and for the Normal Art School.

He also published a large illustrated work upon the whole matter of "art education," as well as numerous addresses delivered from time to time to State legislatures, to educational conventions, and to teachers of the various grades of schools.

As the State art director he made annual reports, which were published in the report of the State board of education. He also stimulated and encouraged the annual public exhibitions of drawings, as well as that made by the State at Philadelphia during the Centennial.

This simple list of duties accomplished will suffice to show that the position of State art director was no sinecure. In addition, he was the author of a system of graded drawing books and manuals published by Osgood & Co., and later by L. Prang & Co., which were widely disseminated throughout the United States.

In the account of the Normal Art School in this report will be found a full history of his connection with that school, from the time when he united with Superintendent Philbrick and others in petitioning the legislature for its establishment down to the severing of his connection with the educational system of the State. Professor Smith returned in 1883 to England, where he has been called to the head mastership of the art department of the Technical College at Bradford, a new and important institution.

It is gratifying to know that, although absent for thirteen years, he was so esteemed in his native country as to be eagerly welcomed on his return and at once given an honorable and lucrative position.*

The Fortieth Annual Report of the Board of Education, being for the year 1876, omits the customary extracts from the local town and city reports, substituting a series of careful histories of the various educational systems of the State, each written by qualified authors. "The libraries," "the high schools," "the colleges," "historical societies, and institutions for the promotion of the arts and sciences," "the normal schools," as well as an exhaustive report on "the academies," com-

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* Bradford, England, the center of important woolen manufactures, is also the home of the distinguished statesman the Right Hon. W. E. Forster, M. P., author of the act of 1840 establishing the present educational system of Great Britain. It was to be expected that all questions of education relating to industry would receive early attention in such a community, and so it happened that after the experiment in public elementary schools had been tried in the borough with ever growing success for more than ten years, the claims of advanced technical education were recognized, and a college for thorough scientific and artistic training in the industries was founded. The building was erected and fitted up with every requisite appliance at a cost of £40,000, and the college is pronounced by the highest authority as "the most complete and the most thoroughly established institution for teaching technical education in the whole country." Professor Walter Smith, as stated above, was called to take charge of the art department.

Of the college and of the esteem accorded to Professor Smith, a pleasant glimpse is given in a recent issue of The Schoolmaster (December 27, 1884), a leading English educational journal, in the report of an address by the Right Hon. A. J. Mundella, M. P., on the occasion of distributing the prizes to the students. Speaking of the college, Mr. Mundella said: "He believed he was not far wrong in saying that this was the first, or nearly the first, thoroughly organized technical institution in Great Britain." After remarking on the very large proportion of South Kensington certificates and prizes already taken by the students of this new college—results, it should be noted, largely due to Mr. Smith's instruction—he said: "He congratulated the Technical College upon having Mr. Walter Smith as an art master. There were few art masters who had the experience and who possessed so completely the successful art of teaching as Mr. Walter Smith, and who knew how to apply art to industry."

There is, however, little satisfaction to those who realize what Walter Smith had already effected towards the promulgation of a correct fundamental system of artistic industrial training throughout these United States, in the reflection that henceforth the exercise of those powers, which should have advanced the industrial interests of a continent, is to be limited to a single institution. This English provincial technical college gains a great teacher, but America l prise the contents of the appendix to this report. The fifth annual report of the State art director appears in this volume. Upon the topic of drawing the board say:

> The board heartily congratulate the Commonwealth on the progress made in industrial drawing during the past year. Nearly all the cities and towns containing more than 10,000 inhabitants, it is believed, have obeyed the requisition of the law by supporting schools for free instruction in this department of art open to persons over fifteen years of age. Public interest in this subject throughout our Commonwealth has steadily risen from the commencement of its agitation, and the facilities for increased efficiency in industrial drawing are rapidly multiplying on every hand. These results, undoubtedly, are mainly attributable to the influence of our Normal Art School and the movement out of which it sprang.

The omission of extracts from the local educational reports, begun in the report for 1876, has since been continued; tables of statistics take their place. Owing to this cause, the value and interest of these reports as indications of public opinion are greatly lessened.

In the forty-first annual report, that for 1877, occurs in the "report of the board" the brief statement here given in refereuce to drawing, followed by the remarks concerning technical schools:

> Until recently drawing was taught in but few of the public schools and in these few without method and to little purpose. It is now one of the regular studies to be taught in all the schools of the State. At the suggestion of the board, the Normal Art School was established at Boston and an efficient corps of teachers appointed for the various branches of free-hand, mechanical, and architectural drawing, designing, and moulding. Annual examinations have been held and the public interest in the work has been expressed by the attendance of thousands upon the exhibitions of accepted drawings. Other States have followed our example and at no distant day the country will experience the results of a trained eye and a skilled hand in every business of life.
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> The establishment of technical schools has been frequently urged by the board. An act was prepared and submitted to the legislature which provided that every city and town of 10,000 inhabitants should establish a technical school. The act was amended by substituting "may" for "shall," and the statute stands a dead letter. If technical schools had been established as proposed, opportunities would be offered to young men who desire to obtain a theoretical and practical education in every branch of mechanics and engineering. Many would be attracted to these schools, labor would be dignified, and our factories and workshops would be filled with skilled artisans.

In the Appendix to this volume is an article of 33 pages, with 8 additional full pages of illustrations, on "The manual element in education," by President Runkle, of the Massachusetts Institute of Technology; also an account of the Industrial School Association of 23 Church street, Boston. This was an experiment for giving boys manual skill, with a view to its feasibility as a part of public school instruction.

In the Forty-second Annual Report, for 1878, there are no reports by the State art director. In the secretary's report a page is given to the industrial element in education, and another to technical schools.

The Forty-third Annual Report, for 1879, contains an "annual report on industrial drawing," of 17 pages, by the art director, with a synopsis of a graded programme of drawing in public schools, of 49 pages.

There is also an article, of 14 pages, on "Handicraft in school," by Prof. Charles O. Thompson, principal of the Worcester County Free Institute, and a short paper, of 4 pages, giving an account of "sewing in Worcester schools." In the absence of the current comments in the local school reports, which would show clearly the drift of public opinion, the admission of these papers may be taken as evidence of continued agitation and tendency towards more pronounced industrial education in the public schools.

RELATION OF DRAWING TO TECHNICAL TRAINING.

The Forty-fourth Annual Report, for 1880, contains a paper giving a short account of industrial education at Gloucester, by L. H. Marvel. This was an experiment in teaching boys carpentry, a sum of money for the purpose having been placed at the disposal of the school committee by Miss Marion Hovey. The annual report by the art director also appears, with a condensed programme of subjects of study for each year in the different grades of schools, and a full "Plan of instruction in industrial drawing for the free evening drawing classes of the city of Boston." The following quotation will show that Professor Smith fully recognized the tendency towards technical industrial education and that he had a clear perception of the relation of industrial drawing to such a course of training:

> There is at the present time an extended belief that the education given in the public schools, in the absence of apprenticeships to trades afterwards, is not sufficiently practical as a preparation for the actual occupation of a great majority of the scholars. A controversy between school men has long been waging, the subject under discussion being how to adapt the present schools to modern needs, securing thereby for the masses of the people as good a training for their work in industrial life as the wealthier minority obtain through universities and professional schools for their occupations. Some have boldly proposed that in every grammar and high school manual industries shall be carried on as a part of the exercises, either general for all pupils, or elective in the upper classes of the grammar schools and in all those of the high schools; so that in the latter, whilst boys who were going to college might study Latin and Greek or the modern languages, those who were intended for employment in the constructive industries should take up manual training in the use of wood or metal, and such mechanical studies as would forward them in industrial occupations.
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> Others object to thus bringing the workshop into the school, and propose the establishment of industrial schools for those pupils only who, having passed through the grammar schools, prefer or are obliged to take up manual occupations rather than prepare for professional or commercial pursuits by going through the high schools. The weight of opinion seems to be tending towards indorsing the latter proposal, though no action appears to have been hitherto taken by any municipal body in this State to try the experiment of establishing industrial schools.
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> Whatever should be the outcome of this discussion, it is agreed by all that the common foundation for all manual skill in the industrial and constructive arts is the ability to draw. Whether the higher schools are to be reorganized and made into part schools and part workshops, or whether one school is to be considered wholly a school and another wholly a workshop, has to be decided in the future, and there are good arguments for both proposals; but in either case a practical knowledge of the elements and principles of industrial drawing would be needed, and therefore all are agreed and it is perfectly safe to state that drawing should be taught to all. Its value

as an element of professional education has been acknowledged also, so the basis of its usefulness is sufficiently wide and broad to cover all occupations.

The question has arrived, then, at this stage of its solution, viz: The future development of education must be in the industrial direction of practical science and practical art, on their elementary planes at first in public schools and subsequently upon higher planes in special schools. Until this conviction crystallizes into a plan, or attains the proportions of a practical scheme adjusted to the public school system, it is safe for us to take the first step, recognized as such by all progressive nations—to teach industrial drawing to every child. The principle was recognized by the legislature of Massachusetts, when in the year 1870 it passed the industrial drawing act, requiring that in future every child in schools supported by public taxes should be taught to draw. But the only way in which this could be accomplished was by insuring that every teacher employed in the common schools should become qualified to teach drawing; and until this was brought about, many children would be deprived of their just rights to a practical element of education which the law decreed them to be entitled to. The regular teachers, therefore, must be taught to draw in order that all scholars might learn from them how to draw.

It was at this time difficult, if not impossible, to obtain trained teachers of industrial drawing, for there was then no normal art school in the United States; indeed, the very term "industrial drawing," as applied to education in the public schools, was hardly understood and is not fully comprehended by the public even now. It has precisely the same meaning and significance as the expressions "industrial arithmetic" or "industrial writing" would have. Hence the need of a normal art school became as manifest as did the necessity for the general normal schools in previous years and thus it became established. All the teachers of drawing in the five normal schools of Massachusetts, for many years past and at present, have been at some time students in the art school; and thus a large proportion of the present regular teachers, graduates in recent years of the normal schools, have been by them prepared to teach the subject of elementary drawing, and all future teachers will be so prepared.

The Forty-fifth Annual Report, for 1881, contains a succinct report by the art director, and an illustrated article of 70 pages, by Professor Runkle, on "The manual element in education," in which are described several leading European and American technical schools. This paper is similar to the one by the same author, and having the same title, in the Forty-first Annual Report, the subject being in this brought down to date.

The Forty-sixth Annual Report of the Board of Education, for 1882, contains no report by the art director. The late director, Professor Walter Smith, who returned to England in 1883, some time after his retirement from this position, left no official successor; nor, although it may not be difficult to revive the office and to find an incumbent, will it be easy for a successor to equal the high standard set up by the first State art director of Massachusetts.

GROWING DEMAND FOR DEFINITE TECHNICAL INDUSTRIAL TRAINING IN SCHOOLS RECOGNIZED.

The movement steadily setting towards technical industrial training in popular education of which mention has been made is fully recognized in the report proper of the board:

With the changes that take place in the growth of our country, in the rapid development of a great variety of business interests and of our civilization itself, new features of educational work are forced into prominence and demand consideration.

Of this character is the subject of technical and industrial education: a subject that has received much attention in many European countries and one that has taken tangible form in a variety of schools — public, endowed, and private — and in reformatory and charitable institutions. All such schools will, of course, depend much in their character upon the circumstances of the people among whom and for whom they are established and supported. In this country this subject is newer and has engaged less attention than abroad. But this board has not been and is not now indifferent to the importance of technical education; nor has it been inattentive to what has been done for it in this and in other countries. At several times during the past ten or more years, quite elaborate and important papers upon the subject have appeared in connection with the reports of this board and its secretary; and during the present year some investigations have been made by a special committee of the board, the results of which will appear in the Appendix to this report. The intense eagerness of the American people to make capital and labor produce the greatest results and the greatest amount of good to the public will doubtless ere long compel a fuller investigation and discussion of technical education. Its very importance and the complications that may arise in attempting to engraft upon our own peculiar institutions systems that have grown up in other countries and under circumstances widely different from our own alike forbid that the subject should be thrust aside without a careful and unprejudiced investigation or that hasty and inconsiderate attempts should be made to incorporate it into our own system of common schools. Any real improvement in those schools that will enable them the better to prepare our children for intelligent citizenship and will likewise make education the handmaid of labor will be joyfully welcomed by the American people and will do much also to insure the perpetuity of the schools themselves.

Another kind of educational work of rising importance is the peculiar system of elementary training known as the Kindergarten — a system which aims by simple and natural methods to lead the child-mind to form habits of observation, of self-activity, and self-development; and thus to become, under judicious training, a self-educator. The principles of this system seem to be founded upon a knowledge of child-nature as learned by wise and observing teachers and mothers. The great importance of our primary schools, the only grade of schools of whose advantages all our children partake, and the general feeling among educators that there is now in those schools too much drudgery, considerable waste of time and effort, and not sufficient attention given to imbuing the child with a fondness for learning, should move us to welcome any light upon the subject that may appear within the sphere of our observation. In some portions of our country the Kindergarten has been adopted as the first step in public primary training. In Massachusetts its public use is confined to a very few instances; although, under the auspices of private enterprise and munificence, it has become quite well known to many of our teachers and to a portion of the public. It is more than probable that the primary schools may yet be greatly benefited by hints obtained from a careful study and observation of Kindergarten principles and methods.

The Appendix contains four papers on the following topics: "Handwork instruction in Sweden," by Prof. John M. Ordway, 50 pages; "Report on industrial instruction in the Dwight school, Boston," 8 pages; "Lessons on color in primary schools," by Miss Lucretia Crocker, of the board of supervisors of the Boston schools, 12 pages; "Some European industrial art schools," by Charles M. Carter, of the State Normal Art School of Massachusetts, 40 pages.

REPORT ON MANUAL TRAINING IN COMMON SCHOOLS.

These papers are preceded by a report on manual training in the common schools, made by tion. This, as the latest word spoken by the educational authorities of Massachusetts, is here given as wholly germane to the purpose of this special report, in which is included the whole subject of art training, both in its application to industry and in its fullest æsthetic development in the fine arts:

The committee appointed by the board of education to consider and report upon the subject of industrial education in common schools, would beg leave to report as follows:

The subject of industrial education in common schools has been for some time under public discussion. References may be found to it in several annual reports by the secretary of the board of education and several carefully prepared papers have appeared in the appendices to the reports of the board. It is the opinion of your committee that the time has come when the subject should receive more specific attention from the board itself.

It is a question, at the outset, whether the very words "industrial education" is not a misnomer as regards anything that can reasonably be proposed for public schools. The express object of these institutions is such a general training as may prepare for any occupation. This applies to every study in our common schools at least. If it be said that the high schools afford a special training because they fit for college or because they teach book-keeping, it may justly be answered that even book-keeping as there taught is only a branch of arithmetic, not carried beyond a point that will be useful in almost any pursuit; and that the college itself, as distinct from professional schools, claims to afford only a general training. But even if it be granted that the high school affords a special training, and that special training in other ways may be desired by some pupils who are designed for particular pursuits, the legislature has sufficiently provided for that view of the case by allowing each town or city to establish technical schools for itself, in which "arts, trades, and occupations" may be taught. (Pub. Stat., chap. 44, sec. 8.)

But the real question is not of industrial schools or of technical schools. We are satisfied that the object of our common schools, as they now are and should be conducted, is to give a general preparation for the duties of life without reference to any particular vocation. Up to a certain point they answer that demand fairly well. Many of the published criticisms on them are, in our opinion, without foundation. It is not the fault of the common schools that the habit of mechanical apprenticeship is dying out, or that people like to live in the city rather than in the country, or that young men and women prefer the lighter and more lucrative occupations to the heavier and more cheaply paid. These tendencies, whether they are for good or evil, are the tendencies of the time; and our common schools have very little to do with them. On the other hand, the great activity of the community, its business skill and its inventive genius, are directly traceable in a large measure to the intellectual stimulus given by the common school. The evil tendencies that exist are in spite of our school system, not by reason of it; and those evils cannot, in our opinion, be reached, except in a very indirect and remote way, by industrial or technical training in our schools.

But let us approach the matter from a wholly different direction. It is, we take it, the object of our common schools to give to the poorest and least favored children the same general preliminary education that we should all wish for our own sons and daughters. What should that education include? It would include, if we are wise, not only what is now taught in our public schools, but something more. That something more is something which many wise parents, at least in cities and towns, are now forced to supply out of their private means for their children, the rudimentary training of hand as well as eye. To learn how to drive a nail straight, how to insert a screw neatly, how to fit two edges of plank together, how to make a square box, is to obtain an elementary education almost as essential as to know that two and two make four. It is really the principle of two and two, worked out with the hand as well as the brain. It is to abstract knowledge what geometry is to algebra. It is not necessary to carry it very far or to apply it in a variety of forms. A little of it goes a great way; but that little is so important that early education is very defective without it. It is not enough to "pick it up." A boy of natural mechanical aptitude will pick it up in his father's workshop or in a boat builder's shop. But most boys have access to no such place; and, if they had, there is no one to teach them to do it carefully; and, moreover, the boys who have least mechanical aptitude are those who most need such training. Any man who can remember the delight with which he first learned to do neatly and accurately any simple thing with his hands — learned from a sailor to tie a knot, or from a farmer to turn a furrow — ought to recognize the value of making it a part of every child's training, not to do those particular things, but to use his ten fingers carefully and methodically in the simplest, cheapest, and most convenient way. This is not industrial education. Industrial education is too large a name for it. It embraces the elements of manual training, that is all

It is precisely on this point that great light has at last been thrown by European example. Until lately there has come to our knowledge no attempt in this direction, in any country, which has seemed of any particular value as an example for us. We have heard of class schools, or technical schools, or schools that prepare for particular occupations, as that for watch making, at Geneva, Switzerland. These teach nothing toward our end, which is not, as has been said, industrial training proper, but manual training given for its educational value. But a flood of light has just been shed upon the subject by the report of Professor Ordway, of the Institute of Technology, in regard to manual instruction in the common schools of Sweden.

Of all the nations of Europe, Sweden is probably that which most resembles the United States of America in its habits, traditions, and social conditions.

It is a republic under the form of monarchy; and the remark is often made that no foreign race becomes so rapidly assimilated to American life as the Swedish. This is the first point of great value to us in the Swedish experiment. The second point is, that it aims, precisely as we aim, at manual training rather than industrial education proper. The third point is, that though we have just called it an experiment, it has long ceased to be an experiment, and has become an established fact. The results will be found stated in the admirable report of Professor Ordway, appended to this volume, and in his accompanying translation of a pamphlet by a Norwegian writer.

The essential features of the Swedish plan are these: In Stockholm, a city of about 150,000 inhabitants, every grammar school has now a room fitted up for joiner's work, in which each boy is taught for two or more hours in every week the rudiments of joinery. This trade was deliberately selected, after mature consideration, as being the simplest, the cheapest, and the cleanest. The teaching is by special teachers, but the plan is there, as with drawing and gymnastics among ourselves, that the regular teachers shall ultimately be trained to supply the place of those especially employed. For this purpose a normal school for such teachers has been established by private benevolence, the particulars in regard to which will be found in Mr. Ordway's report.

How does this method work in Stockholm? It seems to be the unanimous testimony that it works admirably. Parents who were not at first favorable to it, as adding one more study, have been converted to it by finding their boys much more "handy" than before; and it has so increased the attractions of the public schools that the private schools are now obliged to introduce similar methods. If it be said that some of this attractiveness is due to novelty, it must be remembered that the first introduction of the system was in 1872; that it has been practised in a large part of the city of Stockholm for five years, and through the whole city for two years. This certainly gives time for the novelty to have worn off. Meanwhile the system is steadily spreading through the whole of Sweden, not being compulsory by any general law, but encouraged by government grants and by gifts from mechanic institutes.

Your committee are unanimous in the opinion that an experiment, so prolonged and so successful as this, throws a new light on the whole practical problem. Coming from Sweden, it has for us an immediate value, such as it might not possess if only put in operation in England or in Austria. Supposing it ever so desirable, it will no doubt require further consideration and adaptation before it can be successfully imitated here. Its relations with the question of sewing in schools, for instance, and with the general use of women teachers, are yet to be determined. These are almost the only points where we are differently situated from Sweden. There the teachers are generally men, and the girls give to sewing the time given by boys to the new manual training. It is the opinion of Professor Ordway — which we share — that the system of manual training, whenever it is applied here, should be applied to girls as well as boys, even if sewing be in some way combined with it; and that, if this plan be adopted, we shall ultimately have a class of women teachers who can teach it to others. These are matters of detail. But that our schools need some further development in this direction is to our minds clear; and we do not hesitate to avow the opinion that it would afford a better general training to our children if we would curtail several hours a week from the time now given to unnecessary problems in arithmetic and to learning the names of villages in Siberia, if by this means we can teach every child a little of that manual facility which is the A B C of all the arts and industries of the world. This is the way in which every thoughtful man would reason as to the training of his own girls and boys; and why should he not reason in the same way in regard to the children of his neighbors?

The fact that even on a small scale such instruction has succeeded so well in the Dwight School, in Boston, whose reports we also publish in our appendix; the fact that the mayor of one of our great manufacturing cities (Worcester) has expressed in his inaugural address the demand of the people for some such system; these and many other considerations indicate that the time has come for the serious study of the question. To all who are interested in that study we recommend the report of Professor Ordway as giving information more valuable for our American needs than all else that has hitherto been written on the subject.

THO. WENTWORTH HIGGINSON,
FRANCIS A. WALKER,
A. P. STONE,
ABBY W. MAY,
Committee.

So runs the record of the new educational movement in Massachusetts, beginning, as we have here noted, with an intelligent, concerted, and successful effort to introduce, on a large scale, the practical study of drawing in public schools, and already advancing, as is shown by this latest report of the special committee of the State board of education, to the proposal of still further innovations upon old educational ideas.

Whether the plan adopted, and, according to Professor Ordway's report, successfully adopted, in the comparatively poor communities of Sweden, would meet with a like success here, where all the ordinary domestic utensils and wooden implements are made so cheaply by machinery, is at least problematical, notwithstanding the analogies traced by the committee between Sweden and the United States; for, while the laws of mental development, and therefore the logical methods of instruction, must be held to be common to all human beings, the circumstances, needs, and changes met with in the rapidly developing communities of the United States are so unlike those of European countries, that all such analogies, based upon experiments in these countries, are, from the utter unsimilarity of the conditions, likely to mislead.

It is true that the methods by which the mental faculties are trained, or manual dexterity is acquired, are applicable to all persons and can be fairly estimated by all qualified judges wholly independent of nationality; but the practical success of a given plan, relying, as in this case, partly on income from the sale of work, is almost absolutely dependent upon the social customs and pecuniary condition of the surrounding community; these are so absolutely different in Sweden and in the United States as to render comparison almost impossible. The experiment of Mr. Leland in Philadelphia would seem to furnish a more practical model for similar instruction in American communities than any Swedish experiments would be likely to offer.

THE ART ELEMENT NEEDED IN THE UNITED STATES.

Handwork in America, to be of any value, must be artistic; in cheapness, no handwork can compete with the products of American machinery.

As culture increases, this value of the artistic element will be ever more generally recognized, and it is because Walter Smith's system of drawing leads directly to this artistic knowledge and to the development of the art faculty in every child that it excels every other mode of elementary industrial training. It is the basis of all, and, prosecuted to its end with an art purpose, it will suffice for the needs of the professional artist; while, made to serve the ends of the builder, or the engineer, it is equally serviceable to their needs.

One fact may perhaps be as well noted here as elsewhere, and that is, that as in this report the various institutions are described and various authorities quoted there will be observed a sharp discrepancy in statements, arising from the almost opposite ideals cherished and ends sought by the several educators. One will seek to develop individual art workers, and will emphasize the value given to any article or work by the personality of the artist; the other will affirm that the great need of the age and of America is a class of trained men capable of directing machines; both are right, for each of these classes of trained workers are needed, and the unity is here found in the fact just referred to, that the system of industrial art training herein advocated is equally serviceable to either. Drawing is of such universal application as to include all.

Even in this rapid review of the history of the development and progress of industrial education in Massachusetts during the past quarter of a century, as shown in the legislation as well as by the official publications of the educational authorities of the State, there may be observed the processes by which the conception of the advanced thinker becomes slowly embodied in the laws. The need of a given movement is first recognized by a few, then through their efforts is made apparent to many, till, at length, an intelligent public opinion is created, and the action of the representatives of the people in legislature assembled follows as a matter of course. Thus,

> The thoughts of men are widened by the process of the suns.

As this movement, whose progress we have been engaged in tracing, began with a sense of the need of the people for definite training in industrial art, so, standing on the threshold of a new advance, the sense of this need has become even more imperative. The value of this elementary training in drawing as an indispensable part of all public school teaching is, in Massachusetts, so thoroughly recognized by the advocates of the further steps in technical training as a part of the free education provided in public schools, and this is now so well understood by the public at large, that it "goes without saying," as the French phrase it. The ability to draw is taken for granted in all discussions of the advisability of adding technical training to the schedules of public school studies, just as ability to read is assumed in all questions of the introduction of new literary studies in the higher public schools.

How, and by what instrumentalities, such a wonderful result has been brought about in the few years since the passage of the law in 1870 will appear in the following chapters wherein the history of the work of Walter Smith and his coadjutors and scholars is recorded.

CHAPTER III.

HISTORICAL SUMMARY OF THE EARLY WORK OF THE NEW STATE ART DIRECTOR.

The official record of the methods adopted by Walter Smith, as State art director of Massachusetts, to promote the introduction of art industrial education throughout the State, as given in the annual reports of the secretary of the State board of education, and in the official reports made by the State art director.

These means were: (1) The public schools; (2) the free evening drawing classes; (3) the State exhibitions of drawing; (4) teachers' institutes; (5) the State normal schools; (6) the State Normal Art School. Accounts of each follow separately in the order here named.

I.

The conditions accompanying the employment, by the State educational authorities, of Professor Walter Smith, as agent and State director of art education are incidentally recited by Professor Smith in his first and only "Report on Drawing made to the school committee of the city of Boston," April 12, 1880,* given in a succeeding chapter.

The history of this transaction and of the first few months of the experiment is given as follows in the thirty-fifth annual report of the secretary of the board of education for 1871. The report of the board states briefly the facts, which the secretary, after relating the application of the board for an enlarged appropriation, thus recites:

> The object of this appropriation was twofold:
>
> First, to enable the board to secure, if practicable, the services of some competent agent to give aid and direction in a more systematic and thorough course of art instruction in the normal schools; to visit the cities and towns required by the law of 1870 to maintain classes for the instruction in mechanical drawing; to give information and assistance to school committees in the formation of such classes, and the arrangement of suitable courses of instruction in them; and, lastly, to devise and aid in giving effect to some practical method for the education of teachers in drawing, who shall be capable of giving instruction in the special schools, and also in the common schools.

The second object was for the employment of local visiting agents of the schools, with no special reference to drawing.

> Early in the year the subcommittee to whom the school committee of Boston had committed the subject of art education opened a correspondence with gentlemen in

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* School Document No. 7. Report on Drawing. Addressed to the School Committee of the City of Boston, Mass., by Walter Smith, Art Master, Director of Drawing in the Public Schools of Boston, by requisition of the school committee on February 10, 1880. Boston: Rockwell & Churchill, city printers, No. 39 Arch street. 1880. pp. 65.

England, with the object of procuring a gentleman having the requisite qualifications to organize classes and conduct the department of drawing in the Boston schools on the same general plan that music is so successfully taught in them.

The correspondence resulted in an invitation to Walter Smith, esq., the head master of the School of Art in Leeds, to accept the position. In June last Mr. Smith visited this country with the view of examining the ground personally before deciding the question of removal. Mr. Smith brought the most ample proofs not only of distinguished ability as an educator in his favorite department, but also of having been equally distinguished for his skilful and successful endeavors in organizing schools of art in numerous cities in England, a branch of service second in importance to no other with us.

After a full conference with Mr. Smith by the executive committee of the board, in which he fully explained his views as to the best methods of organizing and carrying forward the work in hand, the committee were satisfied of the expediency of procuring his services for the Commonwealth for such portion of his time as should be agreed upon with the Boston committee.

The agreement was made, subject to the approval of the board, to pay two-fifths of Mr. Smith's salary and his actual travelling expenses for a like proportion of his time to be spent in the service of the Commonwealth.

Having accepted the joint service thus tendered to him, Mr. Smith returned to England, and made immediate dispositions for his final departure. He was also charged with the duty of procuring such models of art, drawings, casts, &c., as would be needed for use in his visits to the cities and towns and in the normal schools. For this purpose he was authorized to expend $500, which was appropriated by the board from the income of the Todd fund.

Having procured by purchase, and by the gift of generous friends of art culture in England a valuable collection of models. &c., suited to his purpose, Mr. Smith returned to Massachusetts early in the autumn and commenced his work. He gave interesting lectures and teaching exercises in the teachers' institutes, and has since been engaged in visiting and giving instruction in those cities and towns required by the statute of 1870 to maintain adult classes in mechanical drawing. In this service he is greatly aided by the collection of models above named. These have been labelled and catalogued, and, to secure safety and despatch in their transportation and arrangement for use, are placed under the charge of a curator, who is a competent teacher of drawing, and in this way also does good service in supplementing the labors of Mr. Smith.

At the annual meeting of the Massachusetts Teachers' Association in October last, Mr. Smith delivered a very interesting and valuable address on "Art education and the teaching of drawing in the public schools." This address was listened to with profound interest by a large body of the leading teachers from every section of the Commonwealth, and was published in the Massachusetts Teacher for November. It has also been printed by the board in pamphlet form, and with it two valuable papers by Professor Thompson, which were printed by the board in 1870.

In November a circular was issued by the secretary of the board and sent to the school committee of each town and city in the Commonwealth announcing the entrance of Mr. Smith upon his duties as State director of art education, and giving information as to his methods of procedure and the means of securing his personal aid and advice in all matters pertaining to his department.

This address and circular will be found in the Appendix to this report, to which reference is respectfully invited.

It has given me great pleasure to learn that the teaching exercises and more popular lectures of the art director are everywhere received with a high degree of approbation. New interest is awakened, and large numbers are flocking to the classes wherever they are established. Flourishing classes have been formed in all but two or three of the towns and cities which are required by law to establish them. The chief obstacle in the way of forming these classes lies in the difficulty of procuring competent teachers. So fast as this obstacle can be removed, I see no good reason why the law should not be extended in its scope so as to embrace all our towns having more than five thousand inhabitants. In addition to the work already alluded to, the "objective point" of the efforts of the board and of the art director will doubtless be the preparation, as rapidly as possible, of competent teachers, both for the public schools and for special classes. To this end it will be the duty of Mr. Smith, as soon as he can be released from the more immediate calls of the towns while the evening classes are in session, to spend as much effort as possible in the normal schools, with the view of giving the utmost efficiency to the instruction in drawing given in them; for on these schools we must mainly rely for efficient aid in its general introduction as a branch of study into the common schools.

Something can be done, as heretofore, in the teachers' institutes. Still more, however, might be expected from special normal classes, to be opened at central points, at such periods of the year as would best accommodate the teachers of the vicinity. A special appropriation to be used by the board in maintaining such classes to a limited extent for the purpose of experiment at least would be of signal advantage.

And here it gives me pleasure to point to an experiment in proof of the feasibility of establishing such special classes. In July last, in response to a circular issued by Mr. Marble, superintendent of public instruction in Worcester, a normal class of twenty-three was opened in the rooms of the Worcester Free Institute, and taught by the professors of the institute, for three weeks, two lessons each day. The pupils paid a fee of $10 each for tuition, the use of the rooms being generously granted by the trustees free of charge.

Professor Thompson, of the Worcester Free Institute, says, in a note to myself: "The class is not as large as it would have been at any time except just at the close of the (school) year, in hot weather, when most people rest and travel. That the class was as large as it was argues the need of it." If, as was the case in founding the normal schools, wealthy citizens or manufacturing corporations would make liberal appropriations, to be supplemented by the State, for the establishment of schools for instruction in art and its applications to the industries pursued by them, such an impulse could not fail to be given to the work so auspiciously begun as would insure the emancipation of these industries from their present dependence on foreign artisans, and at the same time, by the coöperation of the State, and in connection with the other instrumentalities which I have named, furnish an ample supply of teachers to meet the demand of the Commonwealth.

It is the view which I have of the vital relations of this subject, alike with a true progress in general education and the higher success in our industrial pursuits, which has led me to describe so much in detail the steps taken during the past year, and which impels me to express the hope that having "put the hand to the plough" we shall not look back till something has been accomplished worthy of the importance of the subject and of the acknowledged sagacity and intelligence for which the public acts of the Commonwealth are so generally distinguished.

The board had announced their action in a circular addressed to the school committees of the State. After quoting the new law requiring the teaching of drawing, they say:

In order to furnish the necessary information, and to enable cities included by population under the law above recited to comply with its enactments, the State board of education has appointed a special officer, whose duty it will be to give professional advice on all technical matters relating to art education in the State, and in other ways carry out the decisions of the board in respect thereto, as its officer. It has been felt that to engraft this comparatively new branch of instruction upon the educational system of the State, and to make it the subject of night-school instruction, would require experienced professional knowledge both of the means and appliances by which art education can be carried out, and for its organization and supervision when established.

The means adopted by the board to secure this information and direction have been as follows:

The city of Boston, having recently appointed a head master and professor of art education in its Normal Art School, and director of the night classes for drawing, established in compliance with the above act, and having only need for the employment of a portion of his time, the State board has also secured his services as professional adviser in the matter of art education. This gentleman, Mr. Walter Smith, late of England, has entered upon his duties as State director of art education, and the object of this circular is to explain to the officers of the cities and towns in the State, to the teachers of the public schools in the Commonwealth, and others interested in the advancement of art education, how they may avail themselves of his assistance. Numerous applications for information, arising probably from a desire to comply with the law, have made the issue of some general information a matter of necessity.

They further recite the need of instruction on the part of the public school teachers, and reprint for their use the address delivered to teachers by Walter Smith; also, for the evening classes, a programme of studies as arranged for their use by Professor Smith is appended. The programmes of courses of study prepared by Professor Smith some years later, supersede this early work, and are given here, either in the accounts of the schools and classes, or, separately among the appendices.

The opening and closing passages of the address to the teachers referred to by the secretary in the extracts given from his report are here given as showing the plan Mr. Smith set himself to accomplish:

In the presence of a body of educationists such as that I see before me, I need not do more than refer to the fact that, by the law of Massachusetts, art education has been engrafted upon its far-famed system of public instruction, and henceforward will form a part, and I hope and believe no unimportant section, of its excellent organization. Provision for the instruction in drawing of teachers and children in the public schools, and of adults in the night classes, either has been already made, or will be arranged for as opportunities occur and teachers can be found. The passing of this law and the efforts made to comply with it will, it is supposed, create a desire for information concerning art education of especial interest just now; and this must be the explanation of my being here to-day. Having been appointed by this city and the State to assist in their development of art education, I would take this opportunity of stating that I believe the choice of the art authorities of the United Kingdom, upon the request of the school board of this city, fell upon me for recommendation to the appointments I now hold because, though acquainted with the national system of my own country and of other European states, I am not committed to, nor do I wholly approve of, any one of them, but believe in the construction of a system in a country where the subject is new. We can adapt the good parts of all the old methods to the requirements of this country and omit all the bad parts. And there can be no reason why the thoroughness which characterizes the general education of Massachusetts should not influence and give tone to any instruction in technical subjects which may be added to it. Whilst we may thus profit by the experience of other nations and older civilization than our own, there will be many features of this country and of society so superior to theirs, and so much more favorable to the development and advancement of education, that I look forward to a future in which our field of art education shall in no prominent part be a reflex of others, but be a combination of excellences that will offer a model for their imitation.

So much of a general introduction I conceived to be necessary before speaking practically on the subject we are about to consider. * * *

I feel now that I have occupied more than I had a right to of your valuable time, and with a few words will conclude. It is difficult, without illustrations and examples of reference, to convey clearly all that is meant about a system of art education. Being here also a comparatively new subject, I have been precluded from appealing to your remembrance of exhibitions and public displays of the works of students. It was intended to have here to-night a collection of drawings, the property of the State of Massachusetts, recently acquired, partly by gift and partly by purchase, from the South Kensington Museum in London, illustrating the course of study in English schools of art. Practical difficulties stood in the way of this; but I am enabled to refer you to an exhibition which is shortly to be held in the rooms of the society of artists in Boston, which every lover of art and friend of art education should see. Including two valuable collections of students' drawings, the one just referred to and another which is the property of the city of Boston, there will be also sets of works displaying the systems of art education in France and in Belgium. The three systems are entirely different, and I think you will agree with me in saying, when you see the works, that each has great and distinctive merits. The exhibition will offer the materials also for a comparison of results which will be of the greatest interest to the educationist. I believe I am right in saying that it will be open in about a fortnight from the present time.

Upon a just recognition of the good features in the systems of countries where the subject is not a new one, and a deliberate consideration of our own circumstances and requirements, let us hope in time to establish a sound system of art education in this State. It is not a branch of education capable of a very rapid growth, for you know that "art is long," but the same wisdom that has built up the magnificent educational system of Massachusetts will, I feel confident, be as capable of perfecting and completing each phase and feature that it may be considered desirable to add to that system, and having passed the law that it shall be done, will be in no disposition to look back, or be impatient and lose heart if the highest results do not immediately manifest themselves.

We have the satisfaction of knowing that, in beginning with the public schools, we are beginning at the right end, and we have the prospect of possessing before very long a central institute of art in the Boston Museum of Art, which will be like the headquarters of fine art for the State. The education of teachers will be provided for in the city by the Normal Art School, and before very long there will be hardly a school in which satisfactory instruction is not given. The supply of examples to carry on an efficient course of art education will follow upon the demand for them without unnecessary delay, and thus I maintain that the prospects of naturalizing the subject and providing for its development are of the most encouraging character. Above all, there are men in this city and State who take the most comprehensive view of the public aspect of this question, and are disposed to spare neither their time nor their means in carrying it through. To them, and to all others who assist in the cause, I wish all success, and feel a strong gratification on my own part that I shall be permitted to help in the inauguration of a system of art education in this great country.

After the experiment had been in progress a little more than a year, the State board of education, in their thirty-sixth annual report, for 1872, treated the subject at length. As showing how comprehensive in their intent was the plan of the new art education, and as reciting, in brief, the progress of work, and especially for their testimony as to the ability and efficiency of the art director, their statements are here quoted in full:

During the last few years, the subject of art education has been more than once brought before the legislature, and, in view of its high importance in connection with the improvement of our system of public schools, and in relation to the promotion of our industrial interests, the board deem it necessary to invite attention to it again at this time. About four years ago several gentlemen of high standing in the community, and having a thorough knowledge of the mechanical and manufacturing interests of the State, sent a petition to the legislature, setting forth the disadvantages under which our manufacturers have to compete with foreign manufacturers for want of workmen skilled in "drawing and other arts of design," and asking that this board might be directed to "report in detail some definite plan for introducing schools for drawing, or instruction in drawing, free to all men, women, and children, in all towns in the Commonwealth of more than five thousand inhabitants." The prayer of the petitioners was granted, and, in a report on the subject submitted to the legislature by this board, it was recommended, first, that drawing be made an obligatory branch in the public schools; and, second, that all cities and towns having more than ——— inhabitants be required to make provision for giving free instruction in industrial and mechanical drawing to men, women, and children. The recommendation was adopted in the act of May 16, 1870, the latter requirement being made applicable to cities and towns containing upwards of ten thousand inhabitants.

This was not intended or understood to be all the legislation that would be needed for the complete development of such a system of art education as the best interests of the community require. It was regarded as only the first step in the right direction. The general idea of the plan was to lay a broad foundation for art culture by universal instruction in elementary drawing in the public schools, providing instruction in the higher stages of art in drawing classes and special art schools. "A school of art," says Mr. Walter Smith, "should be designed upon the assumption that the knowledge of elementary drawing in such subjects as free hand, model, geometric, and simple linear perspective drawing has already been acquired, and its mission is to take up the student upon his leaving the common school, and carry on his general art education to a higher level firstly, and guide it in a special direction afterwards. The school should be to artisans what the university is to the professional man; and to such professions as those of the architect and engineer it should be a professional school also." In the cities and larger towns a good beginning has been made in providing for instruction in elementary drawing in the public schools; but to give full effect to this part of the plan throughout the State, it will probably be necessary to make special provisions in temporary drawing classes or otherwise for the preparation of the great mass of the teachers for the work required of them. An account of the progress made in the establishment of classes in industrial drawing, up to the beginning of last year, was given in the last report of the secretary. It appears that such classes were formed in all but two or three of the cities and towns required by law to make provision for them, and pupils eagerly flocked to them in large numbers from mechanical and manufacturing establishments of every description.

During the last year the progress in this branch has been equally encouraging. Perhaps no other educational improvement undertaken in the State ever met with more general and hearty favor than has been accorded to this. Whatever difference of opinion may exist as to the desirableness or practicability of æsthetic culture as a branch of common school education, there is now a tolerably general agreement among well informed persons as to the commercial value of instruction in the various departments of industrial art, especially in a community largely engaged in mechanical and manufacturing pursuits.

As a means of ascertaining what had been done in the different free industrial drawing classes of the cities and towns where they had been established, and of creating a deeper and more intelligent interest in art education, an exhibition of the works produced by the students was held in Boston on May 16, 17, and 18, 1872, in conjunction with that of the pupils of the Boston public schools. This exhibition attracted a large number of visitors, and evidently imparted a new impulse to the movement in favor of art culture. A report on the merits of the productions exhibited were made by a competent board of examiners, and largely disseminated through the newspaper press.

For a detailed account of the work of the past year in this department of our educational system, the board beg leave to refer to the able report herewith printed, of Mr. Walter Smith, the accomplished State director of art education, whose services in this capacity have been in the highest degree satisfactory. The securing of an art master possessing such a rare combination of liberal art culture, technical knowledge, teaching power, and practical executive ability, was a piece of singular good fortune on the part of the State, and it is hoped that the legislature will provide the requisite means for retaining the services of this able and much needed educator. Such talent ought to command a liberal compensation.

While we would hold up first and foremost, as the proper motive for making ample provision for education, the paramount object of forming thereby healthy, intelligent, moral, self directing, and self governing men and women, harmoniously developed, and capable of fulfilling their destiny as rational beings, still the direct positive value in dollars and cents of any branch of knowledge is not to be overlooked. And in regard to the branch under consideration, the question, "Will it pay?" taken in the commercial sense, can be answered, it is believed, to the entire satisfaction of every intelligent business man. The money value of education in industrial art to a manufacturing people is not a matter of theory or speculation. It has been demonstrated by experience in different countries. The following interesting and instructive statement of the pecuniary results of art training in England is quoted from the excellent book recently published, entitled Art Education, Scholastic and Industrial, by Walter Smith, which ought to be in the hands of all the school committees in the State: * * *

"Within the last five and twenty years we have seen a wonderful change take place in the money value of the manufactures of England. Whilst the cost of producing most of the products of industrial art has decreased by about one half, through the invention of various machines and the discovery of labor saving processes, the actual value of the manufactured articles, taking one branch of manufacture with another, is nearly doubled, and this difference is not to be accounted for by any alteration in the value of money. How, then, is it to be explained? Simply thus:

"A manufactured article, whether a garment, a piece of porcelain, an article of furniture, or even a golden chalice, may be said to possess three elements of value: First, the raw material; second, the labor of production; third, the art character. The two first, in some cases, are a large proportion of the value of the whole, and where no art whatever is displayed it forms the whole value. But in a vast majority of the manufacturing products of every country the elements of cost of material and cost of labor are insignificant in comparison with the third element, viz, art character. It is that which makes the object attractive and pleasing, or repulsive or uninteresting to the purchaser, and is consequently of commercial value. In many objects where the material is of little or no intrinsic worth the taste displayed in their design forms the sole value or the principal, and it has been the general elevation of that element which has nearly doubled the commercial value of English manufactures. I am not aware of any great improvement of material or of demand, but have seen with my own eyes an advance in the artistic element in many branches of British industry from a condition closely bordering upon the barbarism of savage races to the refinement of the greatest art epochs. And it has not been an exceptional case or a development in one direction owing to peculiar circumstances. If we take pottery, glass, porcelain, terra cotta, metal work in wrought iron, brass, bronze, silver plate, goldsmiths' work, jewellery, paper hanging, carpets, parquetry, encaustic tiles, furniture, cabinet making, upholstery, stained glass, mural decoration, wood and stone carving, chasing, enamelling, lace making, embroidery, all show that infusion of taste which has in all cases increased, and in many cases doubled, their value in the market in five and twenty years. Now, just as drawing is the only universal language, so art is an almost universal currency, and amongst civilized races is universal. With this remarkable characteristic that, let the art in a thing be good art, based upon natural laws, and treated with consistency and purity of feeling, and it shall consecrate the material which it ennobles, so that lapse of time will add to its value until antiquity enshrines it."

Soon after the organization of drawing classes was commenced under the requirements of the act of 1870 it became apparent that the chief difficulty to be encountered in this movement was that of providing competent teachers. To remedy this difficulty a proposition was laid before the committee on education of the legislature of last year for an appropriation of the sum of $10,000 for the establishment of a State normal art school, where art masters might receive the requisite training. Although the arguments in favor of that measure apparently satisfied the committee of its expediency, it was deemed best to postpone action upon it until its objects and bearings were more generally understood. The board would now respectfully urge upon the attention of the legislature the importance of making immediate provision for the establishment of the proposed school for the thorough training of art teachers. It is quite certain that the adoption of this measure is only a question of time, and the longer it is delayed the greater will be the waste of time and money.

It was suggested by the secretary in his last report that the statute requiring provision to be made for drawing classes, should be extended in its scope, so as to embrace all towns having more than five thousand inhabitants. This suggestion meets with the cordial approval of the board, and it is commended to the favorable consideration of the legislature. They would also recommend in this connection that the valuable report of the director of art education, giving a full account of his doings in his official capacity, and of the progress and deficiencies in his department of instruction, be ordered to be printed for gratuitious circulation.

The first annual report of the new art director, to which the board awards such emphatic approval, is also here inserted as giving the best possible account of the means adopted by him for the introduction of the new study, thus rendering it of great value to those contemplating a like undertaking; and it is to be hoped that many other States and communities in this country, seeing the methods and results of the efforts in Massachusetts, will "go and do likewise."

To the members of the State Board of Education:

GENTLEMEN: I have much pleasure in submitting to the State board of education the following report of my operations as director of art education in the State, during the first year of my appointment. For though my employment began on June 1, 1871, part of the half year remaining was spent in Europe selecting examples and drawings, and the rest in preliminary arrangements here, for the work to be done in the future, so that the report I now submit is practically for the year 1872.

THE TRAVELLING MUSEUM.

On returning to England in June, 1871, with the authorization from the board to expend the sum of $500 in models and examples for study, to form a travelling collection for temporary exhibition in cities and towns, I endeavored to choose a compact selection, which would represent especially those branches of educational and industrial art the act of the Massachusetts legislature of 1870 was designed to foster and establish. It will perhaps be remembered that acting on my suggestion whilst on a short visit to this country, the board made an application to the English foreign office, through Lord Tenterden, for specimens of the works of students, illustrating the stages of study in English schools of art. The officers of the science and art departments at South Kensington, coöperating with the foreign office, readily undertook to prepare a set of drawings and paintings for this purpose, to present to the

State all such works as were already in their possession, and purchase from students as many as were required to complete the set; also to prepare the works by mounting and labelling for the purpose of exhibition, whilst the State of Massachusetts was expected to reimburse the department for actual outlay of money and for the cost of materials in the preparation of the examples. The selection of works was made with the greatest liberality by the officers of the department, and thus for the trifling expenditure of $150 the State secured forty drawings and paintings of great value, and forming an invaluable means of advancing art education in this country. Several of the paintings are each worth hundreds of dollars, but the educational value of them in a series of students' works is greater still.

These drawings and the copies, casts, and models were purchased and brought here for the $500 voted by the board, and after arrival were fitted in proper travelling cases, to equip them for the dangers of the road. The object of having a small collection of this kind was twofold: first, to show in the various cities and towns of Massachusetts the apparatus and examples for the equipment and furnishing of a drawing class or school of art; secondly, to display by the actual works of students in such schools, the success which might be expected to follow the introduction of art education here.

The manner in which the collection was intended to be and has been used is as follows:

When a city has applied to me for assistance in bringing the subject of art education before the citizens, and is willing to pay the necessary expenses of an exhibition, the collection is placed at its disposal for a week. It has generally been sent to the city on Monday, prepared for exhibition on Tuesday, and open to the public for the last four days of the week. During two of the last days of the week I have been present in the city, holding conferences and giving lectures and addresses illustrative of the exhibition, and describing the manner in which art teaching may be introduced into the common schools and night classes.

Following out this programme, exhibitions have been held in Worcester, New Bedford, Lawrence, Lowell, Springfield, Northampton, Haverhill, Lynn, Newburyport, Fall River, Chelsea, Salem, Charlestown, Newton, and Gloucester, in all of which cities great interest was displayed in the collection, and the exhibitions were very numerously attended.

The experiment was first tried of sending the cases containing the objects and examples by the ordinary express, not in the charge of a special custodian to protect them. On the first journey thus made, exactly one-third of the casts, cases, and picture glasses were hopelessly destroyed, and as each city has to pay for all damages to the collection whilst travelling to or being exhibited in that city, this was a heavy tax. Moreover, at this rate, I estimated that it would take about three journeys to destroy the whole collection. To prevent this I therefore appealed to the board to appoint a curator, whose duty it should be to take the museum to and from each city, to superintend its display, and assist me in clerical work connected with my visits to and correspondence with the cities. This the board agreed to, and appointed Mr. W. T. Meek to the office; since which time, though the collection has travelled to and from fourteen localities, only one accident has happened, and a trifling one, to one object.

I have to suggest that a place be provided in Boston where the collection could be safely kept and occasionally displayed, for it would be thereby doing good work, when not being used for exhibition away from Boston. At the present time it has to be left locked up in the travelling cases, in any of the passages of the State House where there hapens to be room, or more safely stowed away in the dark chambers of the cellar. When a normal art school has been established, the home of the collection will naturally be in it, and valuable indeed will be its influence upon the students. A catalogue of the collection is appended to this report.

PERSONAL VISITS TO CITIES.

I have regarded it to be my duty to place myself unreservedly at the service of any city in the State, for the purpose of encouraging art education in every form. To carry out this, my work, in the various cities I have visited, has come under the following heads:

(1) Holding conferences with school committees and superintendents.

(2) Addressing and giving instruction in drawing to teachers.

(3) Addressing public meetings of citizens, called for the special purpose of considering the subject of industrial drawing, as required to be taught by the legislature.

(4) Examining the night classes already established in the various cities, in compliance with the law.

(5) Arranging for holding the exhibition of the travelling art educational collection, and explaining it when on exhibition.

During the past year I have visited and discharged the above duties in every city of the Commonwealth which has desired to avail itself of my services, and applied to me for them, and am pleased to report that in all I have found the best feeling on the subject of industrial art education, and a strong desire to see it made an integral portion of the system of general education. Of the twenty three cities and towns which come under the operation of the act of 1870, as having a population of ten thousand inhabitants, I have visited eighteen, viz: Boston, Worcester, Haverhill, Lawrence, Lowell, Lynn, New Bedford, Newton, Northampton, Springfield, Taunton, Cambridge, Charlestown, Fall River, Newburyport, Salem, Chelsea, and Gloucester. The five cities or towns which have not yet responded to my offer of coöperation are, Somerville, Pittsfield, Fitchburg, Holyoke, and North Adams.

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CONFERENCES.

In my conference with school committees I have recommended that, to introduce drawing into the common schools, the regular teachers should be instructed by a special teacher of drawing, and that they be then required to instruct their scholars, and have done this both because of its economy and efficiency. On principle I object to special teachers being employed in the public schools for the purpose of elementary teaching, for the regular teachers are thereby set aside and their inefficiency proclaimed. Whatever it is reasonable to expect little children to learn it cannot be unreasonable to suppose that adult teachers can also learn; and inasmuch as this question has passed out of the region of theory into the relms of experience, and it has been found that every willing teacher can both learn and successfully teach elementary drawing, any school committee which will provide for the instruction of its teachers may now introduce the teaching of drawing into its schools with the greatest efficiency. My advice has been followed in many cities, with good results, and I hope before the year 1873 is past every city and town in the Commonwealth will have thus provided sound instruction in the schools.

With reference to the instruction given in night classes, I have found much misunderstanding arising from the way in which the act of 1870 is worded. It reads: "Sec. 2. Any city or town may, and every city or town having more than ten thousand inhabitants shall, annually make provision for giving free instruction in industrial *or* mechanical drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the school committee." The expression *or* mechanical drawing has been understood by some school committees to limit the instruction to mechanical drawing, the latter term being regarded as the interpretation of the former, viz, industrial drawing; and thus they have felt that by this interpretation freehand drawing and design were excluded from the meaning of the act, and that they had no power to provide instruction in those subjects. To remedy this fruitful cause of misunderstanding I would suggest the alteration of the act, to omit the word *mechanical*, as only describing a department of industrial drawing, and to let the act read, "free instruction in industrial drawing *and modelling*," the two last words being added so as to include instruction in the sculptural and plastic arts, valuable for those artisans and others who are engaged in carving, plastering, modelling, and the constructive trades generally.

The instruction given in the free night-classes has been necessarily limited to such subjects as draughtsmen could be found to teach. The profession of the trained art master does not at present exist in this country, and therefore school committees have to rely for the instruction given to draughtsmen employed in factories or workshops, and the instruction has been generally limited to those branches of industrial drawing to which the teachers are alone accustomed. When an artist or architect has been employed, the limitation has been as great, specialties only having been taught.

An important amount of excellent teaching has undoubtedly been done within these lines, but it cannot be said to cover the field of industrial drawing. The industries of this country are very varied in their nature, and the drawing which may be useful to one branch may be nearly useless to many others. Unless the representatives of all these industries can obtain the instruction most useful to them, they can hardly be said to obtain instruction in industrial drawing. The study of machine-drawing by a painter and decorator, does not bear on his industrial pursuit, and therefore to him it is not industrial drawing. The variety of the industries of this country may be expected to increase rather than diminish, and it is therefore a matter of some consequence to provide instruction of a more general character, as well as a wider range of special studies; which, as it appears to me, can only be secured by the training of teachers for the work. This difficulty will sooner or later have to be met.

I may again say that the two great difficulties which stand in the way of success in promoting art education are, first, the want of good examples with which to give instruction; and second, the want of teachers of sufficiently wide acquirements to teach all the subjects coming under the description of industrial drawing.

Being myself an importation, it may perhaps appear somewhat inconsistent for me to say that I think a wise economy suggests our not relying upon importation from foreign countries to remedy these wants. The opening up of our own resources, both in the creation of examples for art study and the training of teachers, seems to me an integral part of the creation of a system of art education. The cost, the delay, the risk of getting models, &c., from Europe are so great, and so out of all proportion to their value, that I have thought it to be especially my duty to coöperate with competent manufacturers in this country for supplying what we want at our own doors, and to take the opportunity of a fresh start to improve as much as possible upon the character of similar examples already provided in Europe. Thus the Worcester Technical School authorities are manufacturing a more complete set of solid geometric models than can be bought in Europe, and the public can purchase them at less cost, which, considering the value of labor in this country, is somewhat of an achievement.

The best example of outline drawing in use among the English and other European art schools, have been reproduced by J. R. Osgood & Co.,* of Boston, who are also at present engaged in reproducing examples in light and shade and color, as well as copies for mechanical and machine drawing, architectural drawing and building construction and design; so that before a very long period has elapsed, I hope that these and other home manufactures will supply us with all we require in the way of implements and apparatus and examples for art study to the great convenience of the public.

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*The publications of these materials for use in art education and of Professor Smith's works were subsequently transferred from the firm of J. R. Osgood & Co. to that of L. Prang & Co.

ADDRESSES TO TEACHERS.

In my addresses and lessons given to teachers, I have endeavored to inspire them with a confidence in their own abilities to teach drawing, which is not commonly felt, and to point out the simplist way of giving instruction to young children; also to impress upon them the need of varying the character of the lessons as much as possible. I have in the past year confined my lectures to freehand outline drawing of objects and ornament, dictation and memory drawings, with occasional reference to elementary design.

Besides the cities and towns referred to before, I have attended teachers' institutes for the same purpose in Medway, Pittsfield, Marlborough, Ayer, Sandwich, in 1871; and Barre, Gloucester, Wakefield, Southbridge, Bernardston and Barnstable, last year; and in addition to this, special meetings of teachers summoned to hear my lectures have been held at Greenfield, Woburn, Taunton, and Cambridge, and county meetings at Spencer and South Abington.

THE NORMAL SCHOOLS.

During the year I have visited the four normal schools for the purposes of conferring with the principals and teachers of drawing, and of giving lectures to the students. Finding that the absence of examples for instruction prevented systematic work in the study of drawing, I recommended the board to appropriate $500 to purchase them, and am glad this has been done, so that as soon as a room has been properly fitted in each of the schools for the reception of the models and copies, and arranged so that instruction, whether elementary or advanced, can be given in them, we may expect a better and a higher class of work than was possible before. The models and examples have arrived and are now being properly arranged in the several schools in suitable class rooms.

I have suggested courses of study for the students specially designed to fit them for the teaching of drawing, and hope before long that this may be made uniform in all the schools, and be tested by examinations the same as other subjects.

As teachers of great experience become available I should consider it of the highest consequence to have in each normal school one instructor who devoted himself or herself to the training of the students by a thorough grounding in elementary drawing, as well as to give advanced instruction to some who may wish to make a specialty of the subject. In my occasional visits I can only point out the landmarks, but students to whom the road is strange require direction and accompaniment for every foot of the way. It is in the normal schools that successful grammar and primary schools are made possible, and therefore what we want to grow in the common school we should plant in the normal.

PUBLIC MEETINGS.

I have given addresses at fifteen public meetings, called especially to consider the question of industrial art education, in as many different cities. From the speeches at such meetings, both before and after my addresses, I gather that in the manufacturing centers there is and has long been a keen want felt of technical or industrial education, that many leading men in different localities have advocated it, and after the meetings I have attended many more have professed readiness to recommend its extension.

"I came here," said the ex-mayor, a wealthy manufacturer in one city, "to see what could possibly be advanced as a justification of the school committee in spending money to teach our children to draw. I have remained here to say that after what I have heard it seems to me not to be so much a question of whether we shall have schools of art, as a question of whether we can possibly do without them any longer, and to express also my astonishment that we have been able to do without them so long without falling out of the rank of civilized nations."

Attendances at these meetings have been always good, considerably above a thousand in many cases, and in some localities the largest part of the audience has been composed of the young men just entering into possession of the industries and manufactures of the places, and who require all the knowledge they can obtain, to keep their workshops up to the standard of production to be found elsewhere.

EXAMINATION OF NIGHT CLASSES.

My examination of the conduct of night classes has been sufficient to show me that it will take time to bring them into successful operation. They are usually begun with crowded class rooms, which suffer nothing from overcrowding for a considerable time before the sessions terminate. The fault does not lie wholly with the teachers, though in so far as they are unable to teach that which the pupils want, they are to a certain extent responsible. Nor does it arise from the inconstancy of the pupils; nor is it to be attributed to the absence of a demand for the knowledge which should be given in such schools. The subject is a new one; people who are unfamiliar with it see that the classes are not always popular, without having a clear idea why, and many committees who have engaged a teacher put gas light into a room, and desks, boards, and scholars think a school of art has been established, without a single specimen of art work or examples to lead the pupils on to excellence. The teacher in front of a blackboard finds himself face to face with a multitude of pupils, every one of whom wants, perhaps, a different sort of instruction from that which is required by the rest; and though in his efforts to teach them all the teacher may do excellently well, he will only succeed in teaching a few that which they came to learn, and which others, not getting, will seek elsewhere, and seek in vain.

It should be recognized by committees that even if it is difficult to secure mature skill to give instruction to pupils, it is only a question of a very moderate outlay—an expenditure of a few hundred dollars, to give the pupils models to study from and examples which will teach even by themselves. What the husbandman is without seed, the art teacher is without models and copies, and the barren fields which both cultivate lack fertility from the same cause.

EXHIBITION OF DRAWINGS IN BOSTON.

In order that it might be seen what each city was doing in the way of encouraging industrial drawing an exhibition of the works produced in the free evening classes was held on May 16, 17, 18, 1872, at the Horticultural Hall, Boston. Owing to the fact that the exhibition was announced only a short time before it was held, when many classes had broken up and the works produced had been distributed, several successful classes were not represented in the exhibition. The works of the classes in eleven cities were exhibited, and during the three days the exhibition remained open it was thronged by a crowd of most interested spectators, and was favorably reviewed by the newspapers at the time. At the same time and place the exercises of pupils in the city of Boston day schools were exhibited, and served to add to the interest felt in the display. Though no substantial recognitions were awarded to successful students, the State board appointed a board of examiners to mark with approval works of especial merit, and the best works were labelled "excellent;" those next in merit were marked "honorable mention."

The report of the examiners, with all the details of the awards, will be found attached to this report.

My belief is, judging from the experience of other countries, that such an exhibition as this should be annual, so that all may see the standard of the best, and the strength of the strongest; that the weak may be encouraged, and merit rewarded. Each school will thus impart strength to the others and gain new vigor itself.

PROPOSED STATE NORMAL SCHOOL OF ART.

To remedy the principal difficulty in the path of art education in this State, viz, that of providing competent teachers, a deputation of the State board of education had an interview with the committee of the legislature, on the provision of a State normal art school, in the spring of 1872. The arguments of members of the board and its active officials were listened to with great patience by the committee, and a request was made that a sum of $10,000 per annum should be voted to support such a school. Nothing, however, was done last year to forward this object, and in bringing it forward in this report as by far the most important subject on which I have to speak, I would appeal most forcibly to the board to give the matter its most earnest consideration.

In the initiation of a movement for the naturalization of drawing in our school system, it may be expected that the duties of a professional director of art, in the State which has taken the initiative in the matter, would be of a somewhat varying character. Among these duties, not the least onerous to me has been the task of advising a very large number of persons who sought counsel as to how they should acquire sufficient knowledge to become teachers of drawing, or being already teachers and seeing that they must improve themselves, how they should obtain further instruction.

Many have been teachers of drawing for years, who have been brought to see their own deficiencies by the works in the State collection exhibited in various towns, and by the standard of excellence which will apparently be required in the future.

In response to appeals made to me by such teachers, I have only been able to say that at present no provision exists in this country by which a teacher of drawing can be thoroughly educated, and that therefore, however reluctantly compelled to do so, I have been obliged to say that American citizens must seek in the art training schools of London and Paris, that which their own country cannot at present give them. I have seen with regret many persons following my advice and expatriating themselves for three or more years, to learn the business of their lives from aliens, on a foreign shore, a business which is in great demand in their own country, and an art which is held in honor wherever men have advanced to the condition of civilization. In one week I have replied to eight applications from Massachusetts and the New England States, from persons who wished to come to Boston to study drawing, in order that they might teach it, and my reply has always been to this effect: "Boston cannot teach you, for its schools exist for its own citizens only, and as yet the State of Massachusetts, though it requires that drawing shall be taught, has done nothing to provide the teachers."

Though eventually provision may be made for this great want by the Art Museum of Boston better than by any other agency, if administered in coöperation with the State authorities, it is imperative and urgent that something should be done at once to meet the pressing demand existing everywhere now.

It seems to me that if two rooms of sufficient size to accommodate about two hundred students in each, with convenient offices attached, could be secured in Boston, one studio to be fitted as a lecture room and the other as a drawing room, and a corps of lecturers appointed to give instruction in such subjects as teachers most generally require, with examinations for certificates of competency to teach held at the end of each year's course, there would be at a small cost a great amount of good done, and it could be done at once.

At the present time the city of Boston has no art lecture room fitted up in which it can give instruction to more than eighty pupils at once, whilst among the teachers of the public schools there are enough willing and anxious to form a class of one hundred and fifty at one time. It may be possible that should the State establish such a school as I have proposed, the city might find it the most economic proceeding to hire the occasional use of it for the instruction of its teachers, and thus the cost to the State might be shared. This coöperation is recommended in the last report of the drawing committee of the city of Boston.

I would propose that the State board of education again ask for an appropriation of $15,000 per annum to rent and fit up premises and conduct normal art classes, to be free to every teacher of drawing in the State who will attend them regularly, and open at a reasonable fee to all others, and that the best men in the several departments of art education be secured to give courses of lectures and courses of lessons to the students who seek instruction in the school; and that the State board be empowered to examine students and grant certificates or diplomas of competency to teach drawing to all students who satisfy the examiners.

That would be economic action, and is practically the only way to provide teachers. Both the English and French Governments had to confess the want of success in all their schemes of art education until each had established a training school for teachers, since which time the attention of the whole world has been drawn to the remarkable progress made in design and art manufactures in both countries, due to the success resulting from the labors of competent teachers more than to any other cause.

We cannot do more than play with this subject of art education until we provide ourselves with the tools with which to work at it, and then nothing can hinder the progress which will be made.

I present this proposal to the board as the one important matter requiring action during the present session of the legislature, with the concluding remark that it is quite impossible to overestimate the practical importance of the proposal.

PURCHASE OF CASTS, ETC., BY DIFFERENT CITIES.

I am glad to say that several cities have already recognized the educational value of good examples for instruction, and have at considerable expense procured them from Europe. Boston, through the liberality of the school committee, the chairman of the drawing committee (Mr. C. C. Perkins), and other friends of art education, was the first to set in motion a scheme of art instruction, including casts and models and flat examples of a high character; and latterly Worcester has appropriated even more than Boston has expended, with the prospect of having an excellent school of art, already in preparation. Newton, New Bedford, Taunton, Cambridge, and Salem have also provided examples, liberally and judiciously. When every city has done the same, and the State has made it possible to secure competent teachers for their classes, then the whole character of industrial drawing as taught in the schools will be what its best friends wish it to be.

THE SOUTH BOSTON SCHOOL OF ART.

A trust fund, left to advance the interests of religion and education in South Boston, has been recently applied in part to establish a school of art in South Boston. Fitted with the best appliances, having a complete collection of apparatus and examples for study, the school was opened in December, 1872, to all residents in South Boston who were above sixteen years of age and engaged in an industrial occupation. The classes are in freehand drawing, machine drawing, and ship draughting, and building construction, three classes, each having two nights per week of instruction. The best teachers which could be got were employed, and out of one hundred and eighty applications for admission, one hundred and twenty students were admitted. A day class for ladies was also established, numbering nearly forty pupils, and also a private class, for which a small fee was charged. The rooms of the school were offered to the drawing committee of the city of Boston in which to give instruction to the South Boston teachers.

All the classes, with the one exception referred to, are free, and all drawing materials and apparatus, instruments, colors, etc., are provided free of cost. Thus, in one district of Boston, a small school of art, capable of accommodating only forty pupils at one time, is now in most successful operation, and giving free instruction to nearly 200 students.

I refer to this school because many localities which have funds in trust for the social improvement of the people by means of education may wisely follow the example of the Hawes trustees in South Boston, and may reasonably expect to emulate their great success. The total cost of conducting the school, it is estimated, will be under $3,000 per annum.

The chairman, Mr. F. Nickerson, one of the trustees of the Hawes fund, and the person who is most to be credited with so excellent a result, is gratified to show the school and its workings to inquirers. It is situated at Savings Bank Building, Broadway, in the same building and on the same floor as the South Boston branch of the Public Library.

OCCASIONAL DUTIES

I have considered it to be my duty to the State to take every opportunity offering to diffuse as widely as possible information concerning art education. For this reason I have read several papers on the subject before meetings of teachers in Boston and other places, and have also occasionally contributed papers to educational periodicals. The wide-spread interest in the subject, both in this State and beyond it, has laid me open to a correspondence upon points of detail, and in answer to applications for advice, which I could not have kept up but for the clerical assistance of the curator of the art educational collection, who has assisted me in every way most efficiently, I have to ask that his appointment by a subcommittee may be approved by the board and his salary fixed. I find that a trustworthy, efficient man cannot be secured for less than $1,250 a year, and I have to appeal to the board to appoint him at that salary, with allowance for actual expenses incurred when on the board's business.

Since my appointment I have delivered two courses of Lowell lectures on art subjects, and published a work on "Art Education, Scholastic and Industrial," with a view of giving general information on the subject to the reading public.

I have also designed and caused to be published two little teachers' guides to blackboard drawing of freehand and model subjects, to supply those teachers with examples who cannot invent them, and give them practical guidance in conducting their exercises. These having been published in a cheap form will, I hope, be useful in popularizing the subjects.

A scheme of study in drawing for night classes, and also a graded programme of subjects to be taught in day schools will be found appended to this report. They have been prepared by me as suggestions of what may be expected to be done both now and in future.

Though my work in the literary, lecturing, or advisory ways has been very various, I hope and believe it has all tended in one direction, that of developing to the best of my ability the art education of the State. I have felt that my first duty was to assist those cities on whom the State laid the responsibility of at once providing for the industrial art education of its citizens, and thus my labors have been principally in such cities. During the coming year I hope to visit many of the smaller towns, and trust that I may also be occupied much with the formation of the normal art classes which I have proposed. The work I may have to do will probably change in each succeeding year, as the subject develops, and I trust that something has been done during the past year to lay a good foundation for future progress in many directions.

I have to thank the members and officials of the board for the courtesy and consideration I have received from them, and which has lightened a heavy year's work.

Also to ask the board's favorable consideration to any application which accompanies this report.

I am, gentlemen, yours, faithfully,

WALTER SMITH,
State Director of Art Education, Commonwealth of Massachusetts.

The three papers appended to this report were (1) a list of the articles in the State travelling art collection before referred to, consisting of several hundred examples, among them drawings of all classes, paintings, vases, models, casts, and geometric solids; also (2) the report made by the State board of examiners upon the "exhibition of drawing" already referred to. The following passage gives a concise statement of this exhibition and results:

> The exhibition represents the results obtained in the free evening drawing schools held during the past winter in Haverhill, Lawrence, Lowell, Lynn, New Bedford, Newton, Northampton, Springfield, Taunton, Worcester, and Boston. There are no works of the classes in Cambridge, Charlestown, Fall River, Fitchburg, Somerville, Newburyport, Pittsfield, and Salem. We understand that no classes have as yet been organized in the other towns included within the scope of the statute—Chelsea, Gloucester, Holyoke, and North Adams. The exhibition consists of about sixteen hundred drawings, comprising exercises from the blackboard, of freehand, geometrical, mecahnical, isometrical, and constructional drawing in outline and tinted, drawing in light and shade and color of foliage, figures, animal forms, machine drawing, and architectural tinting, designs for buildings, for carpets, etc., natural objects, geometric solids in shadow and color, and many other branches of industrial art study.
>
> The difficulty of selecting the works most deserving of commendation, where the general range of merit was so uniform as we found it, and the excellence in some respects so great rendered our task by no means an easy one. We have designated the works of greatest merit by the word excellent, to the number of twenty-seven, giving an honorable mention to eighty-nine others. * * *
>
> C. C. PERKINS,
> W. R. WARE,
> WALTER SMITH,
> *State Board of Examiners.*

The third paper is a condensed "scheme of instruction in drawing," both for public schools and for evening classes. The secretary in his report treats the whole subject concisely as follows; he has been discussing the last year appropriation for the employment of agents, and says:

> It is by means of the appropriation for the employment of agents that the board were able to secure the services of Walter Smith, esq., as the director of art education.
>
> My last report recorded his appointment, and gave some account of his services during the first six months of his engagement. I am spared from giving a similar account of his work since that time by the printing of his own full and admirable report to the board, to be printed with the annual report. In that will be found a full account of the art exhibition, held in the Horticultural Hall, in Boston, in May last, and with results so satisfactory that I doubt not the board will sanction the holding of a similar one in the ensuing year.
>
> I beg to call especial attention to that part of the report which speaks of the attempt made last winter by the committee of the board to confer with the legislature to procure an appropriation for the opening of a State normal art school for the education of teachers, and which urges a renewal of the application to the present legislature. This is a matter of too great importance to be treated with indifference and neglect. The only considerable obstacle in the way of a full adoption of drawing as a branch of daily instruction in every school in the Commonwealth is found in the want of ability to teach it. Hence, the pressing necessity of a central normal school,

to which teachers and persons aiming to become teachers, can freely resort for special instruction in this branch.

With such a school in operation, aided by the present normal and technical schools, the teachers' institute, and by special institutes for teaching drawing, the way would be speedily opened for the passage of a law to take effect at an early day, that no teacher shall be employed in any public school however humble, who is not competent to teach elementary drawing. Such a law has been enacted in one of the great Western States, and its operation has already wrought most happy effects. To give it the highest practical effect with us would require competent committees, or boards of examiners, which could most readily be organized through the instrumentality of the special or district agents above spoken of.

The State Normal Art School was founded in 1873, the second year of Professor Smith's art directorship. Professor Smith was placed at the head of the new institution as director of the school, and by his "advice a very able corps of instructors was secured."

This earnestly desired provision for the proper training of teachers having been made, the success of the experiment of public industrial art training was thereby greatly promoted. The history of this movement, and of the new school, will be found elsewhere in this volume under its appropriate heading. It remains now to treat of the other State instrumentalities for the advancement of the new education, which were under the supervision of the State art director. These were,(1) the public schools; (2) evening drawing classes; (3) the normal schools.

The means taken by him throughout the State in meeting the teachers and school authorities were outlined in his first report already quoted. He also, as opportunity offered, prepared drawing books for pupils and manuals for teachers,* and prepared a programme of studies for the full course of school life. The latest programme of courses, together with the last series of lectures given to the teachers of the several grades of public schools, will be found among the appendices to this volume, where they are inserted as embodying the best results of his long experience in the public schools of this country.†

II.

(1) THE PUBLIC SCHOOLS OF MASSACHUSETTS.

In the second annual report of the art director for 1873, the fact that the law requires the introduction of drawing into all the public schools is referred to, and the general compliance with it noted, as well as the difficulties arising from the want of trained teachers. He says:

The first and principal of these difficulties, which has been referred to by every authority considering the subject, was the impossibility of obtaining trained teachers for instructing the students of evening classes and the teachers of the public schools. The study of art and drawing as a branch of and for purposes of education, had not been seriously pursued in this country, so that the drawing committees of the various school boards have had to depend upon the draughtsmen and specialists for the teaching required. As I pointed out in my last report, the success of many of these teachers has been quite remarkable, but the subjects in which they have given instruction have been very limited, and thus whilst the experiment of giving instruction has proved successful, the need of a broader basis, including many more branches of industrial drawing, has been as clearly demonstrated.

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* Known as The American System unrevised (published by Prang & Co., Boston, Mass.).

† See Appendix C, Part 1.

In the public schools little else than drawing from flat copies, having no particular bearing on either art or industry, has been attempted. In every city where I have examined the instruction given in the public schools, I found the admirable skill of the teachers very much hampered by want of a progressive and simple plan of instruction and of examples with which to give their lessons, and a general absence of confidence in their own powers arising from their having had little or no instruction in the art. * * *

Sufficient importance does not appear to have been attached by school committees to the first paragraph of the act of 1870, by which drawing is made a branch of the education to be given *in all public schools.* It cannot be too often repeated that a general power of drawing can only be attained by the commencement of its practice in the lowest classes of the primary schools and its continuance throughout the whole school course. When this is accomplished (and this is what the act of 1870 contemplates), then every person who is not physically or mentally incapacitated will leave school able to draw, and many persons whose tastes or circumstances have given to them exceptional advantages and encouragements, will not only be able to draw well, but so well as to fit them at once for further study in professions where skill in drawing is the most important qualification.

A condensed plan of drawing for the thirteen years of a possible school course is appended to this report. The reports of the board and of the secretary congratulate the citizens upon the founding of the normal art school, and refer to the art directors' report for the condition and progress of the new study which they agree in considering as very encouraging.

The following is what the director had to say about the common schools in 1874:

DRAWING IN DAY SCHOOLS.

The greatest difficulty that had to be met in popularizing instruction in drawing in the common schools was a general belief among teachers and others that ability to draw was a special endowment, like any physical peculiarity, and that those to whom nature had not made a present of the faculty would waste their time in trying to attain it. This is an old delusion which dies hard, and has the seeming power of coming to life again, no matter how often it is killed. The unbeliever or the sceptic on this point can visit every class room in many grammar schools in Boston, where four branches of drawing are taught to every child, and can examine the work in drawing of every child, seeing that though tasks may vary and degrees of intelligence be expressed in this subject as in all others, and good teaching be as easy to distinguish, yet that exactly 100 per cent. of the children succeed in learning to draw. It is possible to make such an examination any day in the year when the schools are in session, and though some schools whose teachers are enthusiastic in this subject do better than others, the school in which to make the inquiry need not be picked. This result ought to convert the most sceptical, and would do so, only very few feel sufficiently interested in the subject to make the examination.

In the numerous addresses before teachers' institutes and public meetings which I have given during the past year it has seemed to be my duty to discuss the question of the *possibility* of learning to draw before the audiences, rather than to show how the subject could be taught. When teachers have been convinced of their ability to teach, the means of learning are available, and they generally succeed in securing them. As such courses of instruction in industrial drawing were not available when I assumed the duties of my office, three years ago, I considered it to be a part, and perhaps the most important part, of my work for the State to arrange and grade the different subjects of study comprised under the term industrial drawing, and adapt them by exercises to the different grades of schools and classes of pupils. This has been done for the primary, intermediate, and grammar schools, but remains yet to be done for the high and technical schools and free industrial evening classes. I found when I had convinced the assembled teachers of a city how easy it was to teach drawing, the first request they made to me was for a programme of study and the apparatus by which it could be carried out. In the subject of music they were originally as sceptical as they had been in drawing, but when songs had been written for the children, charts and text books prepared for the teachers, and methods of instruction carefully demonstrated, they had taken up the subject of singing enthusiastically and made great progress with their pupils in it. It became, therefore, my obvious duty to remedy this deficiency of apparatus and scheme of study with regard to drawing and make it possible, for all teachers who desired to do so, to teach industrial drawing systematically, for until that had been done by some one, the law of 1870 must have remained inoperative. As my engagement by the board of education was especially to organize a scheme of drawing for the public schools and night classes, and to undertake all and every work required to make it practical and possible, the work of arranging a scheme of instruction and placing it at the command of all the public schools of the State was an important part of my responsible duty. This I have endeavored to discharge, and shall not consider it accomplished until a course of study has also been produced which shall do for high, technical, and evening drawing classes that which I have been enabled to do for the primary and grammar schools. Complying with the wish of many enquirers into method and arrangement in this subject, I have printed in an appendix a scheme of study for drawing, both in day schools and evening classes.

In the director's report for the year 1875 the object to be kept in view by the teachers in the several classes of public schools is stated at some length:

DRAWING IN DAY SCHOOLS.

It would be a gratification to me to be able to report that as all the cities have complied with the act of 1870 with regard to evening classes, so all places, whether cities or towns, had similarly complied with it in the section requiring drawing to be taught in the day schools, exempting none. This is not yet our good fortune, and I think it is a very serious matter when the towns and school committees can be excused for non-compliance with the law because there is no penalty for breaking it. Much difficulty may have been experienced in qualifying the regular instructors of the schools to give the instruction, even when there has been a disposition to impart it to the scholars; but this difficulty has disappeared now, and qualified teachers from the Normal Art School can be secured by all the school committees requiring them, without any delay and at a very slight expenditure. The only way in which industrial art education can become general and its influence extend to the final object contemplated is by the teaching of drawing to every child in the day schools. The evening drawing schools will do little good until the pupils approach them prepared by their practice in the day schools, and the only means by which public taste can be improved is by cultivating a perception and love of the beautiful in the mind and heart of every child by means of drawing.

The drawing as taught in the schools should be essentially a preparation for the understanding and practice of industrial art, the first kind of art practiced by all nations. The instruction should comprise both instrumental and free hand drawing, the first to cultivate a love for and habits of accuracy; the second to develop power and skill in the observation and expression of the inexact; one is not more important than the other, but either alone is a very helpless accomplishment, whilst the boy or man who can handle pencil and compasses with equal facility, is independent of either and master of the situation, whatever may be required of him in industrial art.

The subjects which seem to me to be required in primary schools are, knowledge of (1) geometric forms and definitions; (2) practice in drawing from flat copies and the blackboard of simple objects and ornamental details; (3) elementary design, *i. e.*, exercises in filling simple geometric forms, such as the square, triangle, circle, or hexagon, with short lines, curved and straight, arranged symmetrically, as practiced in Kindergarten schools; (4) drawing from dictation of exact forms in defined positions; (5) drawing from memory of previously drawn exercises; (6) learning the names, though not drawing the forms, of geometric solids. And here it might be well to observe that it is not the manual skill displayed in the children's drawings which determines their educational value, so much as the thoughts they have induced and the habits of accuracy, observation, and self-reliance they have helped to create.

(1) In grammar schools, the pupils should be taught the use of the ruler and compasses in working out plane geometrical problems and in executing the mechanical repetitions of elementary design.

(2) Design, as practised in the workshops, should be taught in the schools, and in the grammar schools the first features of applied design, namely, the invention or adaptation of the forms of nature or historical ornament and their exact repetition as required in design. This has been proved to be easy of attainment.

(3) Object drawing, from the copy to learn principles, and from the object itself to learn their application in drawing from nature, is a very important branch of grammar school work.

(4) Enlarging and reducing from flat examples of natural forms or historical details of ornament, are necessary for practice to give knowledge of proportion and of accepted types of the beautiful in design and ornament.

(5) Drawing from memory, of forms already drawn, is a very direct mode of fixing in the mind the essential characteristics of any form, and is an exercise which should form a part of any system of instruction in drawing.

(6) In every class the imagination of the pupils should be exercised by drawing from the teacher's dictation such forms as can be exactly described, as, for instance, geometric patterns, varied by other forms, such as leaves and flowers, described by their names, or details of ornament previously drawn, and whose names recall their shapes and characteristics.

Thus, by regular alternation of exercises, the thinking, inquiring, executing faculties of the pupils will be aroused and exercised, and in one direction the senses of sight and touch will be utilized for the purpose of acquiring information and of creating or developing habits of accurate observation and fructifying incipient taste.

I have always considered that the work of drawing in primary schools was to learn names and to interest the scholars; in grammar schools, to apply these names and utilize this interest in practising the branches of drawing whose names and first principles have been learnt in the primary schools; whilst in the high schools the processes of drawing should be applied to some useful branch of industrial art, so that the pupil may realize that drawing is not an amusement, but a help towards the serious work of life — a practical help, either to the active agencies which minister to the progress of society, or a practical preparation for the incidental duties which all will be called upon to perform, though it may be in a variety of ways. In the high schools the pupils are old enough to be taught special subjects in drawing, but it is at present too often the case that they are ignorant of the elements of drawing, and are therefore unable to take up the advanced subjects. This will be remedied when the children who have been well taught in the classes below take their places in the high schools, and we shall not see how very general is the ability to draw or how the practice improves the taste, until a younger generation than the present become high school scholars.

I have thought it advisable to dwell somewhat fully on this branch of the subject, because the teaching of drawing in the day schools is the most important step that can be taken towards the elevation of industrial art, and its introduction calls for more general action than has yet been taken.

In the Fortieth Annual Report of the Board of Education, for the year 1876, there occurs, in the brief account of the educational exhibit made by the State at the Centennial, the following statement in regard to drawing:

The specimens of the various kinds and styles of industrial drawing, the study of which is made obligatory in our schools, and to the progress of which our Normal Art School has so greatly contributed, were the most noticeable feature of our exhibit, and drew forth from various quarters the highest praise. The technical schools of the State, in which the practical application of these principles is illustrated, held scarcely a second place. For an analysis of the enterprise as a whole, and a statement of the results which our honored Commonwealth has thereby achieved, we refer to the report of the committee having the exhibit in charge, and also to that drawn up by Mr. C. B. Stetson on behalf of the judges in the department of education and science at the Centennial Exhibition,* and which, when published, we should be glad to see widely circulated in our State.

When the agent, Mr. Philbrick, was recalled to the superintendence of the Boston schools, Mr. P. D. Richards, who had been his assistant and was familiar with the details of the work in hand, succeeded to his duties and, with his excellent wife, whose valuable experience in teaching admirably fitted her for the work, superintended the exhibit throughout its entire continuance. Besides to the agent and his successors the board is greatly indebted to the untiring assiduity of the chairman of its committee, Mr. Hubbard, and to the intelligent counsel and efficient aid of the State director of art education, Mr. Walter Smith. * * *

The board heartily congratulate the commonwealth on the progress made in industrial drawing during the past year. Nearly all the cities and towns containing more than ten thousand inhabitants, it is believed, have obeyed the requisition of the law by supporting schools for free instruction in this department of art, open to persons over fifteen years of age. Public interest in this subject throughout our Commonwealth has steadily risen from the commencement of its agitation, and the facilities for increased efficiency in industrial drawing are rapidly multiplying on every hand. These results, undoubtedly, are mainly attributable to the influence of our Normal Art School and the movement out of which it sprang.

The report of the art director for this year is taken up with the Industrial Art Exhibition made by the State and placed under his care by the board. As this report is given in the account of the Normal Art School, it is omitted here.

The secretary's report quotes the law, approved February 1, 1876, authorizing the teaching of sewing in all the public schools in any city or town, at the discretion of the school committee, and also ratifying any similar previous action of any school committee. He comments thereon as follows:

This act was passed at the instance of the school committee of the city of Boston, who had been informed by the city solicitor that their action in making provision for teaching sewing in the city schools was unauthorized by any law and illegal.

The act of June 14, 1642, which required the "chosen men for managing the pru-

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* For full text of the report by Mr. Stetson here referred to, see Appendix E to Part I of this report.

> dentials in every town" to see that parents and masters taught their children and apprentices "to read perfectly the English tongue, and a knowledge of the capital laws,' also included in its requirements "labor and other imployments which may be profitable to the Commonwealth." And it was ordered that said "chosen men," or the greater number of them, "shall have power to take account, from time to time, of all parents and masters, and of their children, concerning their calling and imployment of their children, &c."
>
> From this good beginning until very recent times, there is good reason for the belief that it has been the practice to a greater or less extent to employ the young children in sewing in the schools, known in the early times as "dame schools," and at more recent periods in the common district schools. Such was the common practice within my own recollection in the schools which I attended in early childhood.
>
> It would seem that a practice so early begun and so long continued, and withal nowhere *forbidden* by law, might safely be regarded as an authorized one, and not repugnant to law. Still, it was well for the sake of giving an emphatic approval to a time honored custom, to give it legislative sanction.

It will be seen from his fragmentary quotations that the men of two centuries ago believed in having the children trained in a knowledge of profitable employments in public schools, so the present movers for the early beginning of industrial training in schools can point, as sustaining their action, to precedents respectable at least for antiquity.

In view of the fact that some additional towns and cities have increased in population so as to come within operation of the law directing the establishment of free drawing classes, the secretary prints a list of all the towns, twenty-five in number, having over ten thousand inhabitants; also, in view of the fact that additional teachers trained at the Normal Art School are now available, he again urges the extension of the law to all places having five thousand inhabitants, and gives a list of all such places; these number twenty-nine.

The Forty-first Annual Report of the Board of Education, for 1877, contains the following:

> Until recently, drawing was taught in but few of the public schools, and in these few without method and to little purpose; it is now one of the regular studies to be taught in all the schools of the State. At the suggestion of the board, the Normal Art School was established at Boston and an efficient corps of teachers appointed for the various branches of free hand, mechanical, and architectural drawing, designing, and moulding. Annual examinations have been held, and the public interest in the work has been expressed by the attendance of thousands upon the exhibitions of accepted drawings. Other States have followed our example, and at no distant day the country will experience the results of a trained eye and a skilled hand in every business of life.
>
> The establishment of technical schools has been frequently urged by the board. An act was prepared and submitted to the legislature which provided that every city and town of ten thousand inhabitants should establish a technical school. The act was amended by substituting "may" for "shall," and the statute stands a dead letter. If technical schools had been established as proposed, opportunities would be offered to young men who desire to obtain a theoretical and practical education in every branch of mechanics and engineering. Many would be attracted to these schools, and labor would be dignified and our factories and workshops would be filled with skilled artisans.

It appears from this that a direct attempt was made to provide professional education in the industries, as has long been done in the learned professions and in the sciences, but unfortunately the good intentions of the promoters of the bill were thwarted; their attempt, however, is an indication of the tendency of educational effort to occupy the whole territory of human activity. This volume contains no report by the art director.

The Forty-second Annual Report of the Board of Education, for the year 1878, announces that, as an important part of their duties, "They aim to raise the standard of education throughout the State, and in every way possible to increase the efficiency of that school system, which has ever been the pride and boast of Massachusetts," and they descant as follows upon the past influence of these public schools upon the welfare of the State:

> It is this system that has given to Massachusetts in the past its enviable distinction among its sister States, and made it possible for even the laboring class to attain a high degree of culture. And not only has it elevated the social condition of the masses of the people, and increased their capabilities for happiness by contributing to their intellectual growth, but in a way more practical, though not more real, it has been of direct advantage to them, by inspiring them with self reliance, and fitting them to perform labor of a higher order, and consequently more remunerative, in all the departments of industry.
>
> Moreover the recent establishment of such institutions as the schools of technology, the Normal Art School, and the schools for industrial drawing, and the introduction of drawing as a required study into all the public schools, have already begun to be of great benefit, especially to the mechanical and manufacturing classes, providing them at once with opportunities for instruction and competent instructors, in departments of study of the greatest practical value to them in their lifework; and this beneficial agency will be increasingly manifest as these schools and this system of instruction work out their full results. The recent testimony of a distinguished Colorado gentleman to the superiority of the graduates of the Massachusetts schools of technology in practical mining, is one of many illustrations which might be given, showing the practical value of the Massachusetts system of education in its bearing upon industrial pursuits.
>
> The board, however, while believing that our school system has in the past been fraught with the greatest blessings for all classes of the community, have felt that great improvement was still possible, and have endeavored, by all means in their power, to render it more effective.

In the secretary's report for the same year occurs the following succinct and comprehensive statement of the claims of drawing for admittance to the public schools:

> Linear drawing is to be introduced at once into primary schools for the following reasons: Drawing has for its object that training of the hand and eye which lays a foundation for skill in the arts. Such training leads to that appreciation of art necessary to create a demand for its products; it leads the mind to make a more careful examination of objects of study; it furnishes the best method of describing those objects that have form and size; it has a refining influence, by cultivating the taste, and it improves the morals by exciting a love for the beautiful.
>
> The training which skill in drawing implies, is that which every student will be glad to possess when he comes to take up the work of practical life.

If these assertions, judicious and truthful as they are, were generally accepted by educators and the public, how much of this present long report might be omitted! Again, in treating of the Normal Art School, the secretary incidentally says:

> There is a growing appreciation of the value of drawing as a branch of common school instruction, and a much clearer perception of the fact that to teach drawing in the schools of the people is to lay the foundation, not only of national art culture, but of national progress in the industrial arts.
>
> The establishment of art schools and schools of design for the masses is of modern origin and is due to two considerations, based on experience of the great value of general artistic skill in promoting the civilization of a people, and in increasing the sources of national wealth. Wise men in all countries are turning their attention to these schools, knowing that every complete system of education must provide for the culture of all the faculties of the human mind, intellectual and emotional, and must besides supply the means necessary for the development of those practical powers upon which the social and national progress of every civilized people depends.

In their forty-third annual report, for 1879, the board of education, in treating of the Normal Art School, thus refer incidentally to the common schools:

> The introduction of æsthetic culture and the art of drawing into our schools will soon result in producing a class of skilled workmen for our manufacturers, and enable them to compete on equal terms with those of other lands; and it will add to our system of instruction the refinements of culture which ennoble the intellect, and purify the heart. In this way labor will be dignified and made productive, and that general intelligence will be cultivated, upon which the morals as well as the wealth of the State depend.

In his special report, Dr. J. W. Dickinson, the accomplished secretary of the board, when treating of the "present condition of the schools," discusses at length the rightful purpose and province of the public schools of the State. It will be seen from the following extract that he has a profound sense of their intimate relation to the prosperity of a people, and that he realizes how, with changing circumstances, new demands are constantly made upon the schools, which demands he would have generously met:

> It should ever be remmbered that our schools are the means by which we are to secure for ourselves all the blessings that can come to us through the experiences of an intellectual life. They are the means by which this Commonwealth has risen to a higher civilization than was ever before reached by a civil state. They are the means by which individual men are to be trained into that state which alone can furnish the conditions of a rational life. They are a necessity to us as a State, and as members of a free State, it is wise for us to give to them our most earnest and cordial support.
>
> The wants of our times call us to a thoughtful study of the principles of education and the methods of teaching. The people are demanding more and more of their educational institutions. They are no longer content to send their children to schools which teach nothing but a knowledge of words or of unrelated facts. They ask now that their children shall be trained for the duties of private and public life. They are calling upon the authorities to place over the schools teachers who are prepared by natural gifts and professional study to lead those under their care to accurate knowledge, to a symmetrical culture, and to a true method of thinking and acting. They desire above all other things to have their children subjected to those educating influences which mould the character into the highest forms of moral strength and moral beauty. They know that these great ends cannot be secured by accident nor

by those cheap means that cost no sacrifices to procure, and they are more than willing to bear the burden of furnishing all the material and moral support necessary to the existence of good schools.

Under the topic of "supervision," which is treated at some length, occurs the following comprehensive view of the principles which should underlie the selection of studies in public schools; his views are catholic and wide embracing, and, while he in no way omits to give due weight to the claims of the so called "higher education," he shows clearly the growing demand for universal instruction in the study of drawing and its kindred branches:

After our pupils are well classified in good school-houses, they are to be provided with courses of studies adapted to the ends school life should strive to secure. In constructing a course of studies, one must be guided by a knowledge of what the mind can and must do to train itself into a good state of existence; of the order in which the powers of the mind are awakened to their different activities; of the topics of study which will furnish the natural occasions for those mental exercises that result in training and knowledge; and, lastly, by a knowledge of the relation different topics hold to one another.

The only sure guide to a rational course of studies is found in a knowledge of the nature of the mind and of its destiny. A knowledge of these things, in the mind of one who has authority, will prevent using words for things; it will not allow the introduction of scientific study into the elementary schools, or into any schools, before the elements of science have been taught; it will suggest the propriety of dividing all courses of studies into two parts—one for the elements of learning, the other for the scientific knowledge founded on the elements; and it will magnify the importance of some branches of study now considered by many ornamental and superfluous. An intelligent comprehension of what constitutes a complete education will not exclude the classic languages from our secondary courses of instruction, simply because they are not to be used as a common medium of communication; nor drawing from any course, because a few only of the children will ever become artists; nor music, because the divine gift of making melody was not bestowed on all. These branches would be introduced into every complete course of studies by an intelligent supervision, because they are the necessary occasions for that knowledge which every educated mind should possess, and for that training of the powers which every mind should experience.

The demands of modern civilization compel us to introduce into our courses of instruction not only those topics which lead to a study for what is called practical knowledge, but those also which provide even for the refinements of learning, not for the few only who may be favored with wealth and leisure, but for all who have minds to cultivate and an equality of natural rights and of social rank to contend for.

In the minds of educated men there is an increasing appreciation of the value of drawing in the public schools. It furnishes the best means of training the observing powers, and of the imagination, upon whose culture the activity of taste depends; it enables the people of a State to run the race of life with the advantages that intellectual skill can add to physical force, and it elevates the morals by calling the mind to an intelligent study of the beautiful. Artists and artisans must be trained, that they may produce works of art and artistic work; all others, that they may be able to appreciate art and make a demand for its products.

If these ends are ever secured the elements of art must be taught in all our common schools, and the conditions for the teaching must be established, if they ever exist at all, by an educated supervision.

The material, as well as the moral prosperity of a country, depends on its general intelligence; and we cannot introduce into the schools any of those studies that excite into a healthful exercise the intellectual nature of the children without at the same time laying the sure foundation for material and moral wealth.

Those who have not studied the history of education, as well as its nature, are in danger of taking a narrow view of what the schools of the people should undertake to do. It should be ever borne in mind by those who frame systems of public instruction for the people of a free State that they are to be provided for in the public schools as a people, and not as a people divided into classes according to the accidents of birth and wealth and occupation.

The public schools, it is true, must treat the children as individuals, but as individuals of a people and not of a class; and while their public training must have reference to general intelligence, it must be of that kind and amount which will prepare them to enter with facility upon any of the lawful activities of public or private life. No more fatal mistake can be made in planning a system of public instruction than to confine it to elementary topics of study, for never have the industries or morals of any country prospered while secondary or scientific instruction has been put beyond the reach of the people.

The history of nations and sound reason both testify against the doctrine of withholding from any portion of a people the advantages of a generous culture for fear that it will render some unfit for work or discontented with their lot.

Spain and Ireland on the one hand and Switzerland and Holland on the other show us that those countries which neglect the higher education of their people have little chance with those which cultivate it.

There should be in this Commonwealth a system of public schools that provides both elementary and scientific instruction for all before they are subjected to technical instruction narrowed to its special applications. Such a system is not likely to exist, unless we have a wise supervision of the schools—wise enough to invent it and direct it to its best results.

A large part of the report of the art director of this year* is given to the Normal Art School, and will be found in the historical account of that school.

The art director appends to his report the carefully prepared programme of a complete course of progressive instruction in industrial art drawing, arranged for all the schools of the State, at the request of the board of education.

This programme embodies the result of Professor Smith's experience, and its utility has been tested by actual work in the schools. It occupies fifty pages of the report and will be found entire among the appendices of this volume.†

As indicative of a growing public interest in the teaching of industries in the common schools, may be cited the brief "report of the committee on sewing in Worcester schools, made April 1, 1879," and included by the secretary as Appexdix E of his report. From this are taken the following sentences:

Since sewing is one of the indispensables in civilized life, the only question is "Shall it be done more or less well, and by those most needing it?"

Our employment societies are besieged by needy women who cannot sew, and cannot be employed. Round button-holes, slipshod seams, crooked hems, inebriated fells, and straggling gathers disfigure their work. Their attempts are sickening to inspectors and disastrous to the finances of the society.

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*Annual Report on Industrial Drawing in the State of Massachusetts for the year 1879, being Appendix D, to the Forty-third Annual Report of the Secretary of the Board of Education, pp. 249 to 345, inclusive.

†See appendix C, "Plan and graded programme of instruction in drawing for the public schools of Massachusetts; prepared by Walter Smith, State Art Director, 1879."

Our domestics are most frequently useless for plain sewing and mending; and even the parish sewing circle of the present shows a lamentable lack in this essential art.

If brought into school practice as a part of the regular discipline, sewing carries its civilizing influence directly to the home; and in the appointed lesson matters get legitimate attention and remedy which otherwise could only be reached with difficulty. It is of first importance that, so far as possible, the work should be brought from the home of the child to secure and keep the interest of the parents.

Again, the sewing hours should bring a cheerful rest, not of idleness, but of change. A glad sense of business should abound. The souls of children are in sunshine when their hands are understandingly employed. A little colored boy in Dix street school, stitching and hemming a coarse brown night-cap for his dear old grandma, brightened a whole room.

Little fingers, unused to so delicate a tool as a needle, will blunder at first. It may require several lessons to learn to thread the eye quickly. Fingers are all thumbs, and many of these are cut and bruised, and pounded, and done up in rags. Practice brings skill, and the illustrated lessons on clean hands given by this exercise are worth all the trouble of teaching sewing.

Beginning on simple strips of coarse cotton to learn a plain seaming stitch, the progress will be gradual. The instruction must be given in classes, and much by dictation and drill, as in drawing and writing. Specially inapt pupils will require special aid, as in other branches, but in a few weeks every child will be able to begin to make a garment.

In the forty-fourth annual report, that for 1879–'80, the secretary in considering "courses of study" gives a digest of the programme prepared by the art director, which was appended to his report of the previous year, and refers teachers and students to that report.*

In the annual report of the art director, which is Appendix D, and fills some forty pages, Professor Smith discusses at length the conditions which have led to a demand for the new departure in education, for which, as he claims, universal instruction in industrial drawing is the essential preliminary. In this connection he takes up exhaustively the subject of the employment of specialists in drawing. He then so groups the whole of the instrumentalities requisite for the thorough training of any community in this study of industrial drawing, and, with a view to this, so condenses the graded programme of the course of study that the whole is well calculated to be of use to all contemplating the first introduction of the study in any community. The schedule of the studies of the Normal Art School which he gives is omitted here, because given later in connection with the account of that school. In like manner the plan for a graded course for the evening drawing classes will be found elsewhere. The fact of the opposition engendered against Professor Smith, as director of drawing in the Boston schools, by reason of his announcement that the time had now come for the substitution of the regular teachers in the high schools instead of continuing the employment of the special instructors of drawing, lends a personal interest to this statement of his estimate of the true relation of special teachers to the scheme of public school instruction:

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* See Appendix C, Part I of this Report.

There is at the present time an extended belief that the education given in the public schools, in the absence of apprenticeships to trades afterwards, is not sufficiently practical as a preparation for the actual occupation of a great majority of the scholars. A controversy between school men has long been waging, the subject under discussion being how to adapt the present schools to modern needs, securing thereby for the masses of the people as good a training for their work in industrial life as the wealthier minority obtain through universities and professional schools for their occupations. Some have boldly proposed that in every grammar and high school, manual industries shall be carried on as a part of the exercises, either general for all pupils, or elective in the upper classes of the grammar schools and in all those of the high schools; so that in the latter, whilst boys who were going to college might study Latin and Greek, or the modern languages, those who were intended for employment in the constructive industries should take up manual training in the use of wood or metal, and such mechanical studies as would forward them in industrial occupations. Others object to thus bringing the workshop into the school, and propose the establishment of industrial schools, for those pupils only who, having passed through the grammar schools, prefer or are obliged to take up manual occupations rather than prepare for professional or commercial pursuits by going through the high schools. The weight of opinion seems to be tending towards indorsing the latter proposal, though no action appears to have been hitherto taken by any municipal body in this State to try the experiment of establishing industrial schools.

Whatever should be the outcome of this discussion, it is agreed by all that the common foundation for all manual skill in the industrial and constructive arts is the ability *to draw*. Whether the higher schools are to be reorganized and made into part schools and part workshops, or whether one school is to be considered wholly a school and another wholly a workshop, has to be decided in the future, and there are good arguments for both proposals; but in either case a practical knowledge of the elements and principles of industrial drawing would be needed, and therefore all are agreed, and it is perfectly safe to state that drawing should be taught to all. Its value as an element of professional education has been acknowledged also, so the basis of its usefulness is sufficiently wide and broad to cover all occupations.

The question has arrived, then, at this stage of its solution, viz: The future development of education must be in the industrial direction of practical science and practical art, on their elementary planes at first in public schools, and subsequently upon higher planes in special schools. Until this conviction crystallizes into a plan or attains the proportions of a practical scheme adjusted to the public school system, it is safe for us to take the first step, recognized as such by all progressive nations, to teach industrial drawing to every child. This principle was recognized by the legislature of Massachusetts, when in the year 1870 it passed the industrial drawing act, requiring that in future every child in schools supported by public taxes should be taught to draw. But the only way in which this could be accomplished was by insuring that every teacher employed in the common schools should become qualified to teach drawing; and until this was brought about, many children would be deprived of their just rights to a practical element of education which the law decreed them to be entitled to. The regular teachers, therefore, must be taught to draw, in order that all scholars might learn from them how to draw.

It was at this time difficult, if not impossible, to obtain trained teachers of industrial drawing, for there was then no normal art school in the United States; indeed, the very term *industrial* drawing as applied to education in the public schools was hardly understood, and is not fully comprehended by the public even now. It has precisely the same meaning and significance as the expressions industrial arithmetic or industrial writing would have. Hence the need of a normal art school became as manifest as did the necessity for the general normal schools, in previous years, and thus it became established. All the teachers of drawing in the five normal schools of Massachusetts, for many years past and at present, have been at some time students in the art school; and thus a large proportion of the present regular teachers, graduates in recent years of the normal schools, have been by them prepared to teach the subject of elementary drawing, and all future teachers will be so prepared.

But a large number of teachers, at present employed in the State, either passed through the normal schools before drawing was regarded as a serious study, or have never been in normal schools, or have never learned to draw. For their instruction the State undertook to provide special teachers of industrial drawing, not to supersede them or to do substitute work for them in their class rooms, but to assist them through their own instruction to qualify themselves to teach the subject to their own pupils.

Another need for the special instructor in drawing had arisen in the free evening drawing schools, which owed their origin to the same act of the legislature passed in 1870. These schools had already felt the truth that men may be able to do well that which they cannot teach others to do well. Good draughtsmen, like good artists, may be absolutely devoid of teaching power, and few even of those who possess it care to worry patiently over the teaching of elementary principles of drawing to beginners, when the more attractive and more profitable practice of their art is open to them. So, with no opportunity of securing the services of teachers who were also draughtsmen, the choice of school committees was limited to those who were draughtsmen without being teachers, and many full and originally prosperous classes have been sacrificed to such a necessity. The graduates and students of the art school will in time obviate this difficulty entirely, and are modifying it already; for the course of study in the school necessitates that they shall become accomplished draughtsmen, and also have some practice in teaching, whilst many by experience will assuredly become accomplished teachers. The special instructor thus produced, qualified by a sufficiency of knowledge and the possession of manual skill, and ready to become ripened into maturity by experience in teaching and the discharge of other general duties, will find plenty of work in every town or city.

THE WORK OF THE SPECIAL INSTRUCTOR IN DRAWING.

The existence of an agency for the creation of special instructors in drawing, and its continuance, presupposes that there is and will continue to be a demand for their services, to such an extent as will justify the continued expenditure of public money for its support. This is as capable of demonstration as is the need for the existence and continuance of the other normal schools. All who study in them cannot become teachers—some from want of capacity, and others because more attractive occupations draw them away; many are removed from the educational field by marriage, some by death, and a few by old age. Thus from natural and unavoidable causes the State educates some from whom it does not receive back an equivalent in teaching, by long continued service in the public schools. Yet who shall say that this education is thrown away upon those who do not repay in kind; and how could the State secure the service it gets from the great majority except by educating them, and all who seek to become teachers, and show the required capacity for the task?

It is clear, therefore, that to keep up the present supply of teachers for the demand already in existence, and to raise the character of education and qualification of the teachers for the future, it is necessary that the agencies for training teachers must still be continued, or the needed supply will cease.

What is true of the normal schools generally is equally true of the normal art school; but applies with even more force to it, because, though it might be possible to attract to this State teachers of the general subjects trained in other States, even if the present normal schools of this State were discontinued, the same could not be said about teachers of industrial drawing, for no other State supports such a school, and there is not even a private normal school in the country which covers the whole field of industrial art education.

As some misunderstanding appears to exist concerning the proper position of, and nature of the work to be done by a special instructor in drawing, it may be of use if these should be defined, as resulting from the best experience here and elsewhere. During the present generation there will not be such a practical knowledge of the subject of industrial drawing, as an element in education, common among the members of school committees or superintendents of schools, as they undoubtedly possess of all other elementary branches of education taught in the public schools; though the coming generations, taught in youth to draw as they were taught to write, will be as well able to manage and direct one subject as the other. Until, however, this is the case, and in order that the instruction in drawing may not fall below the standard of instruction given in other subjects, it is but reasonable that the services of a specialist in drawing should be required, to assist in its supervision, in the public day schools—primary, grammar, and high. The most direct, efficient, and economical mode of employing this assistance is, first, to appoint a qualified special instructor to give courses of lessons to the regular teachers, in the subjects and following the adopted course of instruction which they are required to teach to their own pupils; second, to have the work that is done by teachers and pupils in the classes inspected, examined, and reported on by the special instructor, at stated intervals—the reports to be submitted to the proper authorities as often as need be; these lessons to teachers to be maintained until they have, by examination, proved themselves competent by manual exercises to give the instruction needed in the schools in all the subjects of the course, and the supervision continued as long as the authorities may deem profitable. This has been proved to be the best way of introducing and sustaining the subject in the public schools, and in this instance the interests of education and economy are happily identical. By such an arrangement one special instructor is capable of influencing and directing the study in drawing of every pupil in every class in every public school of a city of fifty thousand inhabitants, and consequently any city or town having a smaller population. If annual or semi-annual examinations be held, either of teachers or scholars, or both, the special teacher should prepare the exercises, mark them when wrought, and report on them to the authorities, accompanied by tables of results and the wrought papers on which they are based.

This is legitimate and proper work for a specialist in this generation. It is tentative, and will not be necessary at farthest after the close of this century; for then, all who are educated enough to be directors of general education will be able to do this work as well, for it will then no longer be special, but general, and will be so recognized.

UNWISE EMPLOYMENT OF SPECIAL INSTRUCTORS.

On the other hand, it has been demonstrated by experience that there is a mischievous, extravagant, and impotent way of employing specialists in our public schools which are not special schools; and that is, to require them to give the instruction to the *pupils* in the several class rooms, instead of to the *teachers*. One specialist can, during ordinary working hours, efficiently instruct all the teachers of a city having the population above described, and the teachers in turn may efficiently instruct all their pupils, passing on quite as much of the information and giving them as much instruction and practice as they can bear and profit by. But how many of those pubils could the specialist teach, and how much instruction could he regularly give even to that small fraction? If all children have equal rights, and this special instruction is an advantage, then it is the right of all children, and not the privilege of a few. Were this recognized, it would involve the employment of more special instructors than at present exist, or than any sensible community would consent to pay. The question then arises, Is this special instruction in general public schools an advantage? The evidence on this point is convincing and unanswerable, and it has been accumulating on my hands in the form of work produced, first, by the instruction of pupils solely by regular teachers; and second, by work of pupils taught entirely by special instructors, enabling us to make a fair compensationof the results in the two cases. These results justify me in saying that the instruction in industrial drawing given by the regular teachers of the public day schools, who have themselves been taught to draw, is a success; and that, broadly speaking, that which is given by special instructors in the day schools is not so successful.

There are ample explanations for this, without discrediting either the skill or the faithfulness of the specialists; and any educator who is familiar with the nature and character of children, and well informed concerning the subject of drawing, will realize how easily this may be.

It seems to me that a discovery based on such evidence is valuable economically and educationally. It is in opposition to the common belief, and may be questioned; and it is in those schools or classes where the regular teacher teaches all subjects to his class of pupils that this principle applies the most strongly; and it does not hold with equal force in departmental schools, where a teacher teaches one subject only to all the pupils in a school, and has no class wholly to himself; where in fact every teacher is a specialist, for there the teacher of drawing will also be a specialist.

SPECIAL INSTRUCTORS ESSENTIAL.

Having previously described this result of my observation, it appears to have been misinterpreted, as being an objection on my part to the employment of special instructors of drawing for any purpose. How contrary this is to the actual truth may be seen, when it is remembered that the Normal Art School was established and continues to exist to-day because I have consistently stated that competent and trained special instructors in drawing are a necessity, and that without them the whole fabric of industrial art education in this State as elsewhere would fall to ruins. I have made this statement from the first moment, both before and after I had seen the condition of drawing in the State in 1871, and before the Normal Art School was established; have reiterated it year after year, when people who held a different opinion have, before committees of the legislature, assailed the Normal Art School on the ground that special teachers were not necessary; and I here reaffirm the proposition. But there is a right way to employ specialists, in which they are necessary and profitable, and a wrong way, in which they are unnecessary and unprofitable; and it is quite a different matter to define the two conditions, which it has been and is my duty to do, from saying that specialists are everywhere unnecessary and unprofitable, for that is exactly contrary to what I have always believed and said.

THE WISE USE OF SPECIAL INSTRUCTORS.

In my last year's report to the board this matter was referred to at the end of the appendix, called "Plan and graded programme of instruction for the public schools of Massachusetts," in the following words:

"It is but just to those special teachers of drawing who have done much towards bringing about the possibility of such a scheme as this, to define their true position in a public school system, their false position having been fully described. First. For some time yet the highest class in high schools must be personally taught by them. Second. Their final work in public schools will be supervision of the work of the regular teachers in all classes, and examination of the pupils. Third. Normal instruction to teachers so long as it is necessary. Fourth. Teaching the evening drawing classes, or schools of art as they will be eventually called.

"In such legitimate and useful work there is a wide field, every large city requiring several of such trained teachers; and every city or town will find it necessary, economical, and profitable to have one such specialist in the public employment, upon whom it can rely for guidance and service. Now that drawing is so extensively taught in the public schools, it should be taught well and under competent supervision, and not be made the subject of experiment. Then schools of art are inevitable, and such schools are the true homes of the special teacher of drawing."

There can be no mistaking such language as this; and the exception made — viz, that "for some time yet the highest classes in high schools must be personally taught by them" — shows that such occupation in them was to be regarded as tentative, not permanent, until the high school teachers had acquired sufficient skill to do the work. About the same time the above was written, I was called upon to report on the teaching of drawing in high schools of the city of Boston, by the regular teachers; and having given personal instruction to teachers from all the high schools, in the course they were to follow, by which they were fitted to give it, I reported to the board as follows (page 19):

"Having had the subject under my observation from that time to this (1871 to 1880) and tested the results of examination by exercises semi-annually, drawn in a given time by the pupils, I have no hesitation in saying that all that is worth teaching about drawing, all that can be taught to average pupils in a reasonable time, or that is worth knowing or being able to do when acquired — all this has been and is now being taught by the majority of the teachers of the second and third high school classes better than it has been taught by the special teachers when they have been called upon to do the same work; and the examination papers now in my possession prove this.

"I do not wish either to assert or deny that this has arisen from any poor teaching on the part of the specialists, or superior teaching power on the part of the regular teachers; but it must be accounted for somehow, because it is true, and has become demonstrated in actual experience. My explanation of it is, that it illustrates a pernicious and radically wrong practice in education, viz, the employment of specialists to teach elementary subjects in common schools. We should recognize the principle that any subject which requires the assistance of specialists to teach it, and is thereby made into a specialty, should never be taught in common schools.

"Special teachers should not be so employed, except as a temporary expedient, and then only for a very limited time; and any subject which the regular teachers cannot teach ought not to be studied by the children.

"Every educator of wide experience and practical administrative power knows this to be true about other elementary subjects of instruction; and from an uninterrupted observation of nine years of the Boston public schools, I say that it is equally true about drawing.

"Apart from the question of economy, which solvent people should also consider in order to remain solvent, the question of success in the work, efficiency of instruction alone, decides the matter in favor of employing only the regular teachers to do this work."

Regarding the circumstances of Boston as being somewhat exceptional, I added:

"That which is possible in Boston may not be equally possible elsewhere; for it may be reasonably expected of a city which has for many years taken the lead in this industrial and educational matter, that it may now expect to reap the fruits of experience for which it has paid, as interest upon investment wisely made."

The school committee had already dispensed with the services of all special teachers of drawing in the high schools; and since September 1, 1880, the regular teachers have done the work. From frequent visits made to the schools since then, and from having the work under my continued observation, I have no hesitation in saying that the pupils of the high schools are being taught in a better way, and are learning more of drawing that will be useful to them in after life, than at any previous period. After a few years of experience, the instruction will be infinitely higher in aim and attainment than it ever could be under the charge of occasional visitors.

The fourth duty before referred to as among the work of a special instructor — viz, that of teaching the evening drawing classes — is one which is often entirely separated from the work of supervision of day schools, and normal instruction to teachers, and discharged by another person. This breaks the connection between the two branches of the system, and interferes with progressive study. However many instructors be required in the evening classes, the direction of the work should be in the hands of the supervisor of drawing in the day schools, and the course of study be arranged so as to hinge on to the place where it leaves off in the day schools, allowing some little practice for review.

Every city or town having a population of five thousand inhabitants or more would find the employment of a special instructor for the four kinds of work described to be sound economy, and of great advantage to the future men and women, now pupils in the schools. Now that the State has made this possible by the provision of well trained instructors, and the salary required by one of them being no greater than is paid to an assistant in a high school, there should be no difficulty about having drawing taught in every city and town in the State, in the best possible manner.

There are many past and present students of the Normal Art School, specially qualified to teach drawing, who are also well qualified to become teachers in other branches of education in high and grammar schools. A school committee may, by the appointment of such a teacher in the high school, thus secure instruction for the regular teachers of all grades of day schools, and advanced teaching for the upper classes of the high school, by arranging that a part of the time required for such normal instruction be given by the high school teacher thus appointed.

GRADING OF THE SUBJECT, AND OF TEACHERS' CERTIFICATES.

The curriculum of studies in drawing to be pursued in the several grades of schools has been matured during recent years, so that it is possible now, and will also be profitable, to define both the grading of the subject and the character of the teachers' certificates issued by the school, corresponding to the different grades of schools and studies.

There are four grades of schools and of the subject, and four grades of teachers' certificates, as follows:

Grade.	Schools.	Name of teachers' certificate.
1. First grade.......	In primary and intermediate schools. First three years. Age from five to eight years.	First grade certificate.
2. Second grade	In grammar schools. Six following years. Age from eight to fourteen years.	Second grade certificate.
3. Third grade.......	In high, evening, and normal schools. Three following years. Age from fourteen to seventeen years in high and evening ; from seventeen to twenty in normal.	Third grade certificate.
4. Fourth grade......	In normal art school. Four years' course. Age from seventeen to twenty-one years.	Fourth grade certificate and diploma.

The programme of instruction according to this grading, as adopted in some of the cities and suggested for adoption in all, and the subjects of examination for teachers' certificates in each grade, are here placed in connection, to show the scope of each grade, and their relationship to each other.

FIRST OR PRIMARY GRADE.— ARRANGEMENT OF SUBJECTS FOR INSTRUCTION IN THE PRIMARY AND INTERMEDIATE SCHOOLS.

Two hours per week. Four lessons, half an hour each. Pupils draw on slates and blackboard; teachers, on blackboard.

First year.— Subjects of lessons : 1. Drawing from blackboard straight lines and their combinations. 2. Drawing from dictation. 3. Drawing from memory. 4. Design, or inventive drawing. One lesson in each division every week.

Second year.— Card copies for each pupil. Subjects of lessons: 1. Drawing from blackboard straight lines and curves in combination. 2. Drawing from dictation. 3. Drawing from memory. 4. Design, or inventive drawing. One lesson in each division in

Third year.—Pupils draw on paper and blackboard; teachers, on blackboard. Subjects of lessons: 1. Freehand from copies of straight-line forms during first half year, and of curved forms in second half year. 2. Drawing from dictation. 3. Drawing from memory. 4. Design, or inventive drawing.

All the classes in every year.—One fourth of each class to draw the exercises on the blackboard at every lesson, so that each pupil shall draw on the board once a week.

TEACHERS' EXAMINATION FOR CERTIFICATES OF THE FIRST GRADE. (*For teachers of primary and intermediate schools.*)

List of certificate drawings for permission to be examined.

Instrumental drawing.—1. A sheet of geometrical definitions, plane and solid. 2. A sheet of blackboard and dictation exercises and elementary designs.

Freehand drawing.—3. A sheet of freehand outline ornament from copy. 4. A sheet of model drawing from solid. 5. A sheet of illustrations for a course of primary school exercises for teaching drawing. 6. A sheet of botanical analysis and historic ornament.

Examination for certificate.—The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session as follows: (1) Freehand drawing, in outline, from copy; (2) freehand drawing from objects; (3) memory drawing of an original design; (4) dictation drawing; (5) geometrical drawing; (6) historical ornament. Thirty minutes given for each subject.

SECOND OR GRAMMAR GRADE.—ARRANGEMENT OF SUBJECTS FOR INSTRUCTION IN THE GRAMMAR SCHOOLS.

One hour and a half per week. Two lessons, three quarters of an hour each. Pupils draw on paper and blackboard; teachers, on blackboard.

First year.—Subjects of lessons: 1. Freehand from copies. 2. Drawing from dictation. 3. Drawing from memory. 4. Design, or inventive drawing.

Second year.—Subjects of lessons: 1. Freehand from copies. 2. Drawing from dictation, and design, or inventive drawing. 3. Memory drawing. 4. Models and objects from copies and objects.

Third year.—Subjects of lessons. 1. Freehand from copies. 2. Dictation, memory, and design. 3. Model and object drawing from copies and solids. 4. Plane-geometrical drawing with compasses.

Fourth year.—Subjects of lessons: 1. Freehand from copies. 2. Drawing from dictation, memory, and design, or inventive drawing. 3. Models and objects from copy and solid. 4. Plane-geometrical drawing with compasses.

Fifth year.—Subjects of lessons: 1. Freehand from copies. 2. Dictation, memory, and design, or inventive drawing. 3. Models and objects from copy and solid. 4. Plane-geometrical drawing with compasses.

Sixth year.—Subjects of lessons: 1. Freehand analysis of ornament and plant form. 2. Applied design for flat surfaces. 3. Model and object drawing from solids. 4. Perspective, parallel and angular.

All the classes in every year.—Every pupil to draw upon the board once a week, to develop the power of making drawings on a large scale and in a free style. Dictation, memory, model from object, and designing exercises are suitable for the blackboard work.

TEACHERS' EXAMINATION FOR CERTIFICATES OF THE SECOND GRADE (*For teachers of grammar schools*).

List of certificate drawings for permission to be examined.

Instrumental drawing.—1. A sheet of geometrical problems. 2. A sheet of perspective problems, parallel and angular. 3. A sheet of blackboard and dictation exercises, and two elementary designs.

Freehand drawing.— 4. A sheet of model drawing, in outline, from solid. 5. A sheet of freehand, outline of ornament, from copy. 6. A sheet of botanical analysis of a plant. 7. A sheet of historical ornament in outline. 8. A sheet of two applied designs for flat surfaces. 9. A sheet of illustrations for teaching drawing in grammar schools.

EXAMINATION FOR CERTIFICATE.

The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session, as follows: (1) Freehand drawing, in outline, from copy; (2) freehand drawing from objects; (3) memory drawing of an original design; (4) geometrical drawing; (5) perspective drawing; (6) historical ornament. Forty-five minutes given for each subject.

THIRD OR HIGH, NORMAL, AND EVENING SCHOOL GRADE.—ARRANGEMENT OF SUBJECTS FOR INSTRUCTION IN THE HIGH SCHOOLS.

Two hours per week. Two lessons one hour each, or one lesson of two hours. Pupils draw on paper and blackboard; teachers, on blackboard and paper.

First year.—Subjects of lessons: 1. Perspective, parallel and angular. 2. Models and objects shaded with (*a*) point and (*b*) stump, from copies. 3. Freehand analysis of plant form and historical ornament. 4. Applied design.

Second year.—Subjects of lessons: 1. Perspective, angular and oblique. 2. Models and objects, shaded from solid. 3. Freehand analysis of plant form and historical ornament. 4. Applied design.

Third year.—Subjects of lessons: 1. Historic ornament, in monochrome and color, from the cast and examples. 2. Light and shade, with brush, from examples, cast, and nature. 3. Color and harmony of proportions, from diagrams, examples, and nature. 4. Applied design.

[NOTE.—The third grade arrangement for evening schools will be found under that division, in this report, page 43. The third grade arrangement for normal schools is, tentatively, the same as for the evening schools, of first year and for the high school teachers' certificate.

TEACHERS' EXAMINATION FOR CERTIFICATES OF THE THIRD GRADE. (*For teachers of high and normal schools.*)

List of certificate drawings required for permission to be examined.

Instrumental drawing.— 1. A sheet of geometrical problems. 2. A sheet of perspective, including parallel, angular, and oblique problems. 3. A sheet of machine drawing, from copies or lectures. 4. A sheet of building construction, from copies or lectures.

Freehand drawing.—5. A sheet of model drawing, in outline, from the object. 6. A sheet of two model drawings, in crayon or pencil, shaded from the copy and object. 7. A sheet of two model drawings, in stump, shaded from the copy and object. 8. A sheet of two model drawings, with the brush, from the copy and object. 9. A sheet of two outline drawings from natural foliage and common objects. 10. A sheet of design — one elementary and one applied. 11. A sheet of botanical analysis of a plant, applied in design. 12. A sheet of analysis of three styles of historic ornament.

Examination for certificate.—The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session, as follows: (1) Perspective practice, one hour; (2) perspective theory, one hour; (3) model drawing, shaded from solid, one hour; (4) harmony of color, one hour; (5) memory drawing, one hour; (6) historical ornament, one hour; (7) machine drawing, one hour; (8) building construction, one hour.

In all the grades.—The drawings are to be made on half-imperial sheets of paper, or mounted on that size (15 inches by 12½ inches); and the short edge of the paper is to be uppermost. Every sheet to be headed and numbered, according to grade, number, and subject, in printed characters, signed and dated, with the name of the school where the teacher is employed. Accepted works will be initialed by the director of the Normal Art School when approved.

The schedule of the course in the Normal Art School, here omitted, was followed by that of the free evening drawing classes. The report concludes as follows:

RECAPITULATION AND CONCLUSION.

In submitting these arrangements and programmes of instruction in drawing for the several grades of public schools in the State to the consideration of the board, I have felt the responsibility of the task and based my suggestions upon records and experience that have been developed by actual work in the class room and the results arising therefrom. It has taken several years of time and much observation to gradually unfold and develop this scheme of industrial art education for the schools of all grades, which is now in operation in Massachusetts. Its application is practical though not yet general in all parts of the State, for local option and opinion control education in this as in other subjects. But the public opinion concerning drawing has much changed during the past decade, and the subject is both better understood and more generally taught now than it has ever been before. The chain of separate links, showing the work from the lowest class in the primary schools to the highest graduating class in the Normal Art School, is now complete, and in this report it may be seen in its connection and completeness, at once a record and a chart. The agencies at work to carry out this plan are as follows: (1) The Normal Art School for training special instructors; (2) the normal schools and the normal classes in cities and towns for the instruction of regular teachers; (3) the free evening drawing schools for the instruction of mechanics and of teachers; (4) the public day schools for the instruction of children.

The steady working of these agencies, each having its distinct stage of the work, though closely related to the rest by being a link in the same chain and having a common purpose with them, must in time affect the education of every person in the State. Indeed, this time is rapidly approaching. Industrial taste has been elevated during recent years to an extent that is both astonishing in some directions and observable on all sides; and no other influence could have been powerful enough to accomplish this, even if it had initiated the improvement, unassisted by the cultivation of taste in the public schools. The same results have followed the employment of similar agencies in other countries, and the success which our scheme of instruction has already attained has attracted the attention of, and been recognized by, the most competent authorities in other lands.

There have been many difficulties and antagonisms to encounter in the development of this scheme. At the beginning, the action of the State board of education was criticised because it was in advance of public opinion, which had not then considered and did not understand the commercial and mental value of drawing as an element of education. This want of appreciation on the part of the public is rapidly passing, even if it has not already passed away. There are indications that in the future drawing will not suffer from lack of interest or appreciation, and it is because of this awakened interest that the time has seemed opportune to me to place in a connected and permanent form, before the public and those who are responsible for its direction, a record of the programme upon which drawing may be successfully pursued in the future. The programme itself is but the accumulated record of our experience in the past.

Respectfully submitted.

WALTER SMITH,
State Director of Art Education.

The Forty-fifth Annual Report of the Board of Education for 1880–'81 contains little reference to instruction in drawing in the public schools. The subject of industrial and technical education is well represented by "Appendix A" to the secretary's report, which is an illustrated article by Professor Runkle, of the Institute of Technology, on "The Manual Element in Education," containing descriptions of various American and European technical schools, and filling seventy pages.

The annual report on industrial art education for the year 1881, the final report, as it eventuated, made by Walter Smith as State director of art education, was almost wholly devoted to the Normal Art School and to the free evening industrial drawing classes for artisans. These portions of this report will be found elsewhere.

The final words thus officially uttered by the late art director upon the condition to which the study had attained in the public school system of the State, with which his report closes, follow here:

> The continuous training of students to become teachers, as carried on in the Normal Art School; the normal work in the study of drawing as it should be taught in public schools, as now practiced in the normal schools; the introduction, testing, and practical success of class instruction in the free evening drawing classes, on a graded plan of instruction, together with the general teaching of drawing in a large proportion of the day schools in the State, all show that the subject of industrial drawing has really become incorporated into the public school system.
>
> The act of the legislature which called forth this development was passed and became law in May, 1870, and it seems to me that the work which has been above referred to shows that under somewhat difficult circumstances it has been effectively carried out, up to a point which has placed it beyond the character of an experiment.
>
> Respectfully submitted.
>
> WALTER SMITH,
> *State Director of Art Education.*

At last, after twelve years of arduous exertion, he sees the fortunate completion of his preliminary labors; the conditions requisite for success in the experiment have been attained, when suddenly the leader is dismissed. It is, if analogies may be permitted between the campaigns of peace and those of war, as if Sherman had been superseded just as the march from Atlanta to the sea was begun, or as if Grant had been removed a few short weeks before the conference with Lee at Appomattox.

III.

(2) FREE EVENING DRAWING CLASSES.

The law which directed that drawing should be taught in all the public schools of the State was equally imperative in declaring that in all towns and cities having more than ten thousand inhabitants, "free instruction in industrial or mechanical drawing" should be given "to persons over fifteen years of age, either in day or evening schools, under the direction of the school committee." Any town or city was also at liberty to establish such schools.

These schools were primarily designed to supply the omission of such training in the public schools; ultimately, in the judgment of the art director, they would serve as advanced schools for the technical training of graduates of the public schools, who should have been taught drawing at school.

They were, however, at first specifically designed for the practical training of artisans, and with this intent their establishment was made a prominent feature in the consideration of the adoption of the proposed law by the legislature. They were to serve the same purposes as the men's drawing classes of Cooper Union, New York, the classes of the Franklin Institute, Philadelphia, or those of the Maryland Institute, Baltimore.

One of the first acts of the new State art director was the endeavor to promote the opening of these schools.

The difficulty of finding competent teachers, which was at first so grave an obstacle to the introduction of the study in the public schools, was felt less seriously in these classes, for there was usually in each place some person available who had enough practical knowledge of mechanical drawing, at least, to direct the efforts of the pupils; still the lack of experience in teaching, or the lack of ability to teach, was so general as to prove a somewhat serious obstacle, it being found that the teaching quality was quite as essential as the technical knowledge of the subject; a fact apt at first to be overlooked.

REGULAR ATTENDANCE ENFORCED.

The annual exhibitions held in Boston of the work of these classes, soon extended so as to include the work of the public school pupils as well, served to stimulate and develop them. Still, owing to various causes, they were irregularly attended and somewhat irregularly opened, being often, in some places, omitted for a whole season. At last, after experience of the difficulties and due pondering over the deficiencies of these classes, the art director advised, for the Boston schools, more stringent conditions of attendance, and, as a result, was enabled to outline a systematic course of study which contemplated two years of attendance; ultimately to be extended to three years.

Some discipline and responsibility for attendance seem to be essential to the success of such undertakings, even where the facilities are freely furnished, and the result of attendance is of such direct personal benefit to the individual that it would seem as if it might safely be left to the voluntary action of the pupil; experience, however, teaches that unless the right of attendance is forfeited by tardiness or absence, punctuality in, and continuance of, attendance cannot be secured. The pupils who desire to receive the free teaching must be made to feel that it is earned by some action on their part, and may be jeopardized by their own neglect.

A brief account of these classes, derived from the State reports, will now be attempted, and the programme of studies as arranged for them by Professor Smith will be given for the use of all who may contemplate the opening of similar classes.

The following extract from the Thirty-fourth Annual Report of the Board of Education for 1869, '70 will serve to show the popular appreciation of the opportunities afforded by the opening of these classes, and also that the members of the board, while not overlooking the practical value of the new study, were not unmindful of its esthetic possibilities where once introduced in the public schools:

> An important step of progress in our system of public education has been marked by the general introduction of drawing into our schools, and the establishment in the larger towns and cities of special classes for instruction in mechanical drawing, in pursuance of the act passed at the last session of the legislature.
>
> The benefits anticipated from this measure are twofold. Its economical value is manifest in the important relation which drawing sustains to all branches of the mechanical arts. The ability to make a correct drawing of any machine or product of the industrial arts, or even to understand and use such a drawing, is one of the most important elements of mechanical skill. It is believed that there is no exaggeration in the statement of one of the experts, whose letters to the board on this subject have been printed by order of the legislature, that from the lack of this our country suffers an annual loss of millions of dollars. This consideration is of special importance in a State whose physical conditions render it inevitable that its wealth, in the future as in the past, should be mainly the product of manufacturing and mechanical industry and skill. But, while the economic value of drawing is thus evident, we should not lose sight of its use as an element of esthetic culture. Even that slight elementary knowledge of the art which can be taught in the public schools will have a strong tendency to develop keenness and delicacy of perception, and a refined artistic taste. Thus our people will be prepared to appreciate those masterpieces of pictorial and plastic and constructive art which genius is ever ready to supply when taste has created a demand. The large number of mechanics and others not members of the common schools, who have joined the evening classes in drawing, where such classes have been established, is an evidence of the popular appreciation of the importance of this art. The board suggests for consideration the expediency of so changing the statute that the provisions of its second section may apply to all towns of over five thousand inhabitants, thus diffusing more widely the benefits of a measure so fruitful of good. In view of the difficulty of securing competent instructors for advanced classes, it may become desirable for the State to make some special provision for the education of teachers in this department.

The secretary of the board, in his thirty-fourth annual report, quotes the new law, and gives a brief account of the steps that led to its passage, quoted elsewhere in this report. Of the evening classes he says:

> It gives me very great satisfaction to learn that the law has been cordially welcomed in nearly every section of the State. It evidently met a felt, if not an acknowledged, want. That portion of it especially which relates to the teaching of industrial drawing has called forth a degree of interest, not to say enthusiasm, altogether beyond my expectation. In many of the cities large classes have been formed, and are now instructed in evening schools composed of persons — mostly mechanics — of all ages from fifteen to fifty, and the progress of attainment has thus far given the highest satisfaction alike to the pupils and instructors, and fully justified the expenditures made.
>
> Large classes have been formed in Springfield, Worcester, Boston, Cambridge, Charlestown, Salem, Taunton, New Bedford, and Fall River, and in other cities the

> matter has been favorably considered and steps taken for the formation of classes during the present session. * * *
>
> The numbers in attendance have been large, varying from one hundred and twenty to over four hundred. In many instances more persons applied for admission than the committee could accommodate with room, or furnish with competent instruction. Indeed, the small number of properly qualified instructors who can be obtained is the most serious obstacle in the way of forming classes. If, however, the demand for such instruction shall continue, the pupils in our scientific schools will, I doubt not, make special efforts to qualify themselves, and there will soon be no lack of competent teachers.
>
> The methods of organizing and conducting these schools have been left to the judgment of the several school committees.

The secretary devotes a large portion of his report to the subject of drawing in all its phases, quoting largely from different authorities, and also publishes, as an appendix to his report, the "papers" presented to the legislature, with the report upon the subject made in obedience to the resolution of the legislature of the previous year.

These papers were published in pamphlet form by order of the legislature in 1870. The report of the board of education transmitting them to the legislature will be found in chapter II, Part 1 of this report (pages 52–56), in which the history of the movement in Massachusetts is recited.

In the volume of the thirty-fifth annual report for 1870–'71 the board in their own report reprint the new law and recount the circumstances connected with the movement and culminating in the passage of the law directing drawing to be taught in public schools, and also in special classes for adults. They state the fact of the employment by them of Professor Smith, to supervise the introduction of the new study. In the history of their own action in this matter they show that a circular of directions, with a copy of the pamphlet of "papers on drawing" above referred to, has been sent to every school committee in the State. They conclude this part of their report with a concise statement of the work of the year as follows:

> Instruction in drawing has been given in many schools with very encouraging results, so especially in the evening schools in architecture, machine and ornamental drawing.

The secretary in his report, the thirty-fifth annual, speaks of the interest everywhere awakened by the teaching exercises and the popular addresses of the new art director. He says:

> Flourishing classes have been formed in all but two or three of the towns and cities which are required by law to establish them. The chief obstacle in the way of forming these classes lies in the difficulty of procuring competent teachers. So fast as this obstacle can be removed I see no good reason why the law should not be extended in its scope so as to embrace all our towns having more than five thousand inhabitants.

The following is that part of the circular which refers to the evening classes. The plan of a course of studies arranged for these classes, which was a part of this official circular, is here omitted, as the latest programme, prepared by the art director, will close this part of this report:

> A circular stating the course of instruction in drawing, arranged by Mr. Smith, and in use at the free evening classes of the city of Boston, is appended to this. It is

constructed so as to embody such general subjects as are attainable by all classes of students in evening work by gas light, color generally being excluded from the course. It comprises what is usually included under the term "mechanical or industrial drawing;" but to this might be added, as of equal importance to some trades and occupations, the subjects of modelling in clay and casting in plaster, where room and appliances are obtainable for the study, and a teacher can be procured. To facilitate the establishment of such evening classes, the board has obtained a complete collection of models, casts, and other apparatus, and examples in use in the schools of art of Great Britain, together with a set of the works of students in those schools, illustrating a complete course of instruction in all the stages of art study by actual specimens of the students' productions, from the most elementary works to the most advanced. This collection of drawings and examples is to be deposited at the State house. It will be lent for exhibition to any city or town engaged in forming free evening drawing classes, provided the committee of local board of education will be responsible for its public display, safe custody, and return. At the time of such an exhibition, the director of art education will, on request, attend personally any conference of the school committee in the locality, to afford all the detailed information requisite in commencing art classes, their teaching and general management, and give, if desirable, an address on the subject to public meetings called to consider the question of art education. As, however, many of such applications may be expected, it will be necessary to give notice some time previous to the period at which such exhibitions, conferences, or meetings may be desired, in order that arrangements may be made without interfering with similar efforts in other places.

Among the several ways in which the State director of art education may be of assistance to school boards are the following:

(1) Giving information as to the best methods of fitting, arranging, and lighting class rooms for the study of drawing, the provision, cost, and preparation of examples for instruction.

(2) Consultation with teachers or their examination as to fitness for appointment as teachers, and instructing them in the use of the examples provided for the course of study.

All applications in response to this circular should be addressed as follows: Walter Smith, Esq., director of art education, 807 Broadway, South Boston.

In the first annual report of the new State art director, which is included in the Thirty-sixth Annual Report of the Board of Education for 1871-'72, occur the following paragraphs in relation to the evening classes. These remarks are worthy of consideration by all desiring to establish similar classes, as they indicate the obstacles to be anticipated and the remedies to be applied:

With reference to the instructions given in night classes, I have found much misunderstanding arising from the way in which the act of 1870 is worded. It reads: "Sec. 2. Any city or town may, and every city or town having more than ten thousand inhabitants shall, annually make provision for giving free instruction in industrial or mechanical drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the school committee." The expression *or* mechanical drawing has been understood by some school committees to limit the instruction to mechanical drawing, the latter term being regarded as the interpretation of the former, viz, industrial drawing; and thus they have felt that by this interpretation freehand drawing and design were excluded from the meaning of the act, and that they had no power to provide instruction in those subjects. To remedy this fruitful cause of misunderstanding, I would suggest the alteration of the act, to omit the word mechanical, as only describing a department of industrial drawing, and to let the act read, "free instruction in industrial drawing and modelling," the two last words being added so as to include instruction in the sculptural and plastic arts, valuable for those artisans and others who are engaged in carving, plastering, modelling, and the constructive trades generally.

The instruction given in the free night classes has been necessarily limited to such subjects as draughtsmen could be found to teach. The profession of the trained art master does not at present exist in this country, and therefore school committees have to rely for the instruction given to draughtsmen employed in factories or work shops, and the instruction has been generally limited to those branches of industrial drawing to which the teachers are alone accustomed. When an artist or architect has been employed, the limitation has been as great, specialties only having been taught.

An important amount of excellent teaching has undoubtedly been done within these lines, but it cannot be said to cover the field of industrial drawing. The industries of this country are very varied in their nature, and the drawing which may be useful to one branch may be nearly useless to many others. Unless the representatives of all these industries can obtain the instruction most useful to them, they can hardly be said to obtain instruction in industrial drawing. The study of machine drawing by a painter and decorator does not bear on his industrial pursuit, and therefore to him it is not industrial drawing. The variety of the industries of this country may be expected to increase rather than diminish, and it is therefore a matter of some consequence to provide instruction of a more general character, as well as a wider range of special studies; which, as it appears to me, can only be secured by the training of teachers for the work. This difficulty will sooner or later have to be met. * * *

EXAMINATION OF NIGHT CLASSES.

My examination of the conduct of night classes has been sufficient to show me that it will take time to bring them into successful operation. They are usually begun with crowded class rooms, which suffer nothing from overcrowding for a considerable time before the sessions terminate. The fault does not lie wholly with the teachers, though in so far as they are unable to teach that which the pupils want, they are to a certain extent responsible; nor does it arise from the inconstancy of the pupils; nor is it to be attributed to the absence of a demand for the knowledge which should be given in such schools. The subject is a new one; people who are unfamiliar with it see that the classes are not always popular, without having a clear idea why, and many committees who have engaged a teacher, put gas-light into a room, and desks, boards, and scholars think a school of art has been established, without a single specimen of art work or examples to lead the pupils on to excellence. The teacher, in front of a blackboard, finds himself face to face with a multitude of pupils, every one of whom wants perhaps a different sort of instruction from that which is required by the rest; and though in his efforts to teach them all the teacher may do excellently well, he will only succeed in teaching a few that which they came to learn, and which others, not getting, will seek elsewhere, and seek in vain.

It should be recognized by committees that even if it is difficult to secure mature skill to give instruction to pupils, it is only a question of a very moderate outlay, an expenditure of a few hundred dollars, to give the pupils models to study from and examples which will teach even by themselves. What the husbandman is without seed, the art teacher is without models and copies, and the barren fields which both cultivate lack fertility from the same cause.

The second annual report of the art director, included with the Thirty-seventh Annual Report of the Board of Education, 1872–'73, continues the consideration of these classes, as follows:

The free industrial drawing classes at present occupy a similar position to that which hindered the success of mechanics' institutes in England before the passing of the education act of Mr. Forster. They were established by Lord Brougham and others to add technical or secondary education to the general education possessed by the English mechanic and artisan. But it was found in practice that the artisan had little or no general education, without which it was impossible to advance to technical subjects, and so the institutes had to take up elementary instruction, and give to the young workman in night classes the education he ought to have obtained but did not receive during his childhood in the public day schools.

Our evening industrial drawing classes are for the present similarly situated. Instead of teaching to their students the various subjects of industrial drawing they have first to teach the pupils how to draw, few having learnt to do so at school, and thus they have to make up with difficulty what could have been acquired easily in the primary and grammar schools. The consequence is that the artisan after a year or two's study in the night classes leaves with some little knowledge of drawing, but none of industrial drawing, which necessarily comes after the power to draw; is in fact the application of drawing to industrial purposes. This was also the position of schools of design and schools of art in Europe before drawing was generally taught in the common schools; they had to rely upon exceptional taste in their pupils, or to take them without any taste or experience in drawing; and so long as this was the case the success of the art schools was limited, and their influence on manufactures inappreciable.

The remedy was found in teaching every child to draw in the public schools, and thus those who were called the gifted pupils were prepared for and passed on to the technical school, and a general infusion of taste among the mass of the people resulted also. In a few years after this was accomplished the centres for art instruction began to increase in number, and in England, instead of there being less than a score of schools badly supported by the public, as was the case in 1851, there are now in the United Kingdom nearly eight hundred schools of art and evening classes at which instruction is given in industrial drawing.

When the pupils of our day schools are taught drawing as systematically as they are to-day in Boston and many other cities and towns in the Commonwealth, and a generation of children so taught are advanced to the evening classes, then we shall begin to reap the fruit of the wise legislation which put the teaching of drawing in the day schools before the teaching of industrial drawing in evening classes. Then, and not till then, will the teaching of industrial drawing become successful, and by that time it is more than likely that competent teachers of special subjects will have been trained to supply the necessary instruction.

The most important step which could have been taken towards making this possible was the establishment of a normal art school in this State, and this has been accomplished during the present year. * * *

FREE INDUSTRIAL DRAWING CLASSES.

Of the twenty-three cities and towns in the Commonwealth having above ten thousand inhabitants, and which, by the statute of 1870, are required to support industrial drawing classes, twenty have complied with the statute, and three have disregarded it, viz: Pittsfield, Holyoke, and North Adams. I have endeavored in several ways to coöperate with the authorities in securing the establishment of such classes, but as yet unsuccessfully. At Pittsfield, where an exhibition of the travelling collection was held, at a public meeting, it seemed to be the unanimous feeling that a class should be established; yet at a town meeting held afterwards it was carried not to establish such a class.

I am informed that such action can be taken in defiance of the statute, because there is no penalty for non compliance. It would materially help forward the cause of industrial drawing if all towns having a population of more than five thousand were required to establish free evening drawing classes, for that would bring in forty five more centres of instruction; and if the same proportion of these towns complied with the statute as in the case of the twenty-three cities and towns, a very large increase in the number of classes would occur. This was the first proposal made to the legislature, but an alteration made it incumbent only on the more populous towns, having ten thousand inhabitants. Should the law be so amended as to include those towns having a population of five thousand, there might be some provision made in the statute that would incite all such towns to obey the law. So long as only the more thickly populated places have the benefit of the industrial drawing classes, the artisans employed in the smaller towns will be placed at a great disadvantage, compared with those who dwell in larger towns and cities; and the information given and skill acquired in the classes are equally necessary to all who would be skilled workmen. This would show that an arbitrary line drawn between places, with reference to population only, is very hard upon the mechanics resident in small, though possibly rising, towns.

In an Appendix containing programmes of courses, the following general remarks upon the studies most suitable for these classes preface the plan of studies given:

> Before the student can apply a knowledge of drawing to industrial purposes, it is necessary that he should know how to draw, become practically acquainted with the process by which form is represented, and the different methods of representation.
>
> Industrial drawing may be divided into two distinct classes: 1. Instrumental drawing. 2. Free hand drawing. The first being worked by means of compasses, squares, and other mechanical implements; the second wholly or partly by the free hand alone, without the aid of instruments.
>
> (1) *Instrumental drawing.*—The distinct branches of this section, which will be generally required in industrial drawing, are (*a*) plain geometrical drawing, (*b*) projection, (*c*) perspective, as elementary subjects, and (1) building, construction, and architectural drawing,, (2) machine drawing as advanced subjects.
>
> Instruction in these subjects will be sought after by all who are engaged in the building trades, and by mechanics in the machine and tool trades; also by architectural and engineering pupils working in offices.
>
> (2) *Free hand drawing.*—This subject includes the representation of objects and ornaments from both the flat and the round; the study of light and shade and color, and also of original design.
>
> Students who are engaged in such occupations as lithography, fresco painting, designing, architects and engineers' offices, teaching, drawing, carving, engraving, woodcutting, decorating, drawing on wood, &c., will require instruction in this branch.
>
> In each of these departments, some of the knowledge and practice found in the other will be of great advantage to the student. For this reason there should be a *first year's course*, common to both subjects, which all the students should be required to attend.

In this third annual report, included in the volume of the Thirty-eighth Annual Report of the Board of Education, 1873–'74, the art director continues to treat of the usefulness and the needs of these art classes. As these comments are equally applicable to any communities in which similar classes are desirable, they are quoted in full:

> I would again suggest that the statute of 1870 may be amended to include all towns of five thousand inhabitants and upwards, instead of those only which have ten thousand and upwards, and believe a greater number of mechanics would receive instruction in the fifty towns so included than are now receiving it in the twenty-three now influenced by the statute. Experience has demonstrated that there is as much need of industrial art education in the smaller as in the larger centres of population,

and in Europe it is not unusual to find the most successful classes in quite small towns. Another argument for making the statute apply to smaller towns is, that the young and enterprising mechanics of a village generally migrate to the towns and cities, where, if ignorant of the scientific or artistic elements of their business, they have to compete on unequal terms with those in the larger towns who have had opportunities for instruction. Their labor is of less value to employers, because less productive and of a ruder quality, and they must content themselves, therefore, with lower wages, a penalty to be paid as the price of being educated in a town with less than ten thousand inhabitants, in which no means of industrial education were provided, and the value of skilled labor was ignored.

In view of this, it seems advisable to give all who desire it the advantages of instruction now possessed by some, and it would not be difficult to accomplish this without incurring great expense either to localties or pupils.

Having shown that these classes are as desirable in small towns as in large cities, and even more necessary, he treats of the essential prerequisites for the success of such classes wherever established.

The tendency of the work carried on in these classes is towards mechanical and architectural drawing, and few take up free hand subjects. When, however, this has been done, there is a manifest increase of interest displayed by the students. The difficulties in the way of making these classes successful have been very great and are not yet overcome. I would join with the State board of examiners in their reiterated cry for good examples to study from in the classes, and add to it that unless they be provided and used in a room properly arranged and fitted up for the study of drawing it will be impossible to make great progress. The provision of qualified teachers of drawing is being made, but they will be helpless to do great work, unless they are provided with the means found necessary elsewhere. More than half the difficulties under which these classes labor are removable at will, and until they are so removed the classes themselves will be inefficient and in danger of being discontinued from want of pupils. The conditions necessary to carry on a free industrial drawing class successfully may be summed up as follows:

There must be (1) suitable class rooms, lighted by day and night, adapted to the character of work carried on in them; (2) proper examples to be used as copies and illustrations of the subjects studied, in line, color, light and shade, and models of solid forms and natural objects (3) a qualified teacher, who is familiar with the general subject of art education, theoretically and practically, supported by subordinates who can teach special departments.

Without all three of these requirements it is impossible to achieve success which is absolute. Though working under disadvantages almost insurmountable, many teachers have already attained comparative success. Starting with fewer means of usefulness than are above described, much valuable time of both scholars and teachers is thrown away, both often become discouraged, and the imperfectly equipped classes have been generally unfruitful in results. When this is so, the money they have cost has been thrown away, and they are really the most expensive and unsatisfactory of experiments. A little attention paid to those conditions of success before commencing drawing classes would obviate such difficulties and insure very different results, and I desire to impress this on all committees who find it difficult to account for the gradual thinning of classes which were overcrowded at first.

The fourth annual report of the art director, included in the Thirty-ninth Report of the State Board of Education, 1874-'75, is of interest as showing how appreciation of the value of the instruction given in these classes has become general, and also as showing how, in the director's mind, a sense of the need of more thorough work and discipline in these classes is also growing.

To the members of the State Board of Education:

GENTLEMEN: It gives me much pleasure to report that during the year 1875 every city in the State whose population of ten thousand and upwards imposed on it compliance with the law of 1870 in maintaining free industrial drawing classes has established such classes.

With regard to the success of these classes, it must be remembered that the difficulties which hindered their practical usefulness in the first few years are not altogether removed even now, and the absence of suitable and well equipped class rooms for different branches of study, with experienced and accomplished teachers to give instruction, is clearly discernible in many cities. Gradually, however, one after another of the localities most alive to the needs of industrial education are providing themselves with rooms properly lighted and arranged, and with examples for study well chosen and for the time sufficient; and through the action of the Normal Art School it will not be long before teachers will be available capable of taking charge of the various branches of art education which are generally taught in an art school.

The development of art education in the State cannot go on faster than the development of public opinion, which originates and sustains it; but there can be no question that the annual exhibitions of drawings from the free evening drawing classes of the State have rapidly matured public opinion on the subject.

The question now most frequently put is not whether it is possible to comply with the act of 1870, or whether it would do any real good to trade and manufactures if it were thoroughly carried out, but rather "which is the best way of doing it"—a change of material significance to have been brought about during the short space of five years. The answer to such a question I gave as fully as I could in my report of last year, and hope before long to see some manufacturing city in Massachusetts so alive to her material interests as to erect a building entirely devoted to instruction in art and science applied to industry; and to found a school which shall make its products as famous for skill and taste as the trade schools of France did, and do now, for the country which was *practical* enough to establish them.

FREE EVENING DRAWING CLASSES.

It would materially advance the soundness of the instruction given in these classes if school committees would not treat them in any way different from other classes under their control with regard to the classification of scholars, arrangement of subjects for study, and application of rules for the management of the pupils. The study of drawing is as much a matter of progress from elementary to advanced features, from simple to more difficult work, as is the case with writing or arithmetic. Pupils who come to learn, and are entirely ignorant of a subject, are the last persons capable of deciding what they should do, and yet in many of the evening drawing classes, they are allowed to pick and choose which exercise out of many difficult subjects, such as machine drawing or building construction, they should begin with, before problems of geometrical drawing, on which all such work is based, have even been attempted by them.

The result is failure in the pupil and discouragement of the teacher. This does not happen in the day schools, and the reason is that in them the school committees and teachers do their share of the work, and that share is to direct and instruct the beginner in what is necessary and best for him to learn, rather than to allow him to select for himself. The greatest help the managers and instructors of these evening drawing classes can give to the pupils is to lay down a progressive course of study, and require all who enter the classes to begin at the beginning, and to advance according to some definite plan, whether the subject be free hand or mechanical drawing.

> In these classes, too, there should be reviews, examinations, and promotions, as in the day schools, and for the first year of instruction all the pupils should be taught by means of class lectures on the several elementary subjects, and not by individual teaching alone, which leaves many pupils too long without help and direction, and all without the full oral instruction from the blackboard which beginners require
>
> The objection to all this, that youths and adults in such classes would not like to begin at the elements, even though ignorant of them, can have no weight with practical men. There is no royal road by which ignorance, even though it be adult ignorance, can arrive at knowledge and power; and from such a delusion persons holding it may as well be delivered at first as at last, before much valuable time has been wasted, and the labor of both master and pupil thrown away — the inevitable consequence without authoritative direction on the one hand and respect for authority on the other.
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> Before any teacher of a night drawing class is allowed to commence his work he should be required to submit to the committee having such class in charge a complete programme of the course of lessons he proposes to give, by which every hour of the time devoted to instruction shall be profitably employed, dividing the courses into class lectures for beginners of the first year, and subjects of advanced instruction for those who have attended in previous years. This programme should include work done both in class and during intervals between lessons at home, and the whole should conclude by time examinations of the pupils and a public exhibition of their works.
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> I have for the past two years printed such a scheme of instruction for evening classes as an appendix to my annual report for the convenience of those who may not feel competent to design such a scheme, and have on several occasions drawn up courses of study for school committees who desired me to do so.

As the most of the fifth annual report of the art director, which appeared in the Fortieth Annual Report of the Board of Education, is quoted in the account of the Normal Art School, it is omitted here. In this a detailed list of the drawings shown at the Centennial and selected from the State exhibition held in Horticultural Hall, Boston, in March, 1876, for that purpose, is given.

From this it appears that the evening schools of the following cities and towns were represented at the Centennial Exhibition at Philadelphia:

> Evening schools of Boston, by 41 frames, containing 82 drawings and 13 portfolios, with several hundred drawings: Adams, by 1 portfolio; Cambridge, by 12 frames, containing 30 drawings and 1 portfolio; Fall River, by 3 frames, containing 6 drawings; Haverill, by 1 frame, containing 2 drawings; Holyoke, by 2 portfolios; Lawrence, by 2 frames, containing 2 drawings; Lowell, by 15 frames, containing 40 drawings; Lynn, by 2 frames, containing 4 drawings; New Bedford, by 4 frames, containing 8 drawings and 1 portfolio; Newburyport, by 1 frame, containing 1 drawing; Newton, by 3 frames, containing 6 drawings and 1 large portfolio; Northampton, by 1 large portfolio; Pittsfield, by 1 large portfolio; Salem, by 3 frames, containing 6 drawings and 1 large portfolio; Taunton, by 11 frames, containing 22 drawings; Worcester, by 1 portfolio.

In the art director's report for the year 1879, which appears in the Forty-third Annual Report of the Board of Education, there occurs, incidentally, in the recital of the causes that led to the establishment of the State Normal Art School, the following reference to the evening drawing classes:

> During the fall and winter of 1871–'72, I visited and examined the drawing classes of all the cities in the State which had made an effort to carry out the law of 1870 by

establishing free evening drawing classes. After this round of inspection I saw that to make any progress in this matter, and to economize the expenditure upon it, it was essential that the teachers should be taught or the time of the pupils and taxes of the citizens would be equally wasted and general disappointment ensue.

In the report of 1880, printed in the forty-fourth annual report of the board, the art director, in speaking of the employment of the special instructors for such duties as the graduates of the Normal Art School are qualified, thus treats of the evening drawing classes:

> Another need for the special instructor in drawing had arisen in the free evening drawing schools, which owed their origin to the same act of the legislature passed in 1880.
>
> These schools had already felt the truth that men may be able to do well that which they cannot teach others to do well. Good draughtsmen, like good artists, may be absolutely deficient of teaching power, and few, even of those who possess it, ever care to worry patiently over the teaching of elementary principles of drawing to beginners when the more attractive and more profitable practice of their arts is open to them. So, with no opportunity of securing the services of teachers who were also draughtsmen, the choice of school committees was limited to those who were draughtsmen without being teachers, and many full and originally prosperous classes have been sacrificed to such a necessity.

This report closes with a detailed programme of a course for the Boston drawing classes, which, with Mr. Smith's introduction, here follows:

> Though the industrial drawing act of 1870 says that every city or town having more than ten thousand inhabitants *shall* maintain a free evening drawing class for youths above fifteen years of age, the classes seem subject to a precarious existence. A university town like Cambridge, a wealthy one like Newton, manufacturing towns like several which could be named, occasionally allow a school year to pass without opening the evening drawing class, although they may have the rooms fitted and the examples and apparatus complete. The explanation given sometimes is that there is no penalty for a breach of the law, which hardly seems a satisfactory one to come from law-abiding people, having in charge the training of youths and children to become good citizens.
>
> There have been doubtless many elements of discouragement in the conduct and results obtained from these classes in the past; the attendance of pupils irregular, the progress made, therefore, not satisfactory, and both teachers and committee have been sometimes disheartened. Much of this friction has arisen from a cause before referred to, viz, the want of qualification of teachers; but there are others which contribute toward this unsatisfactory state of things also.
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> First, when drawing in its first steps and elements is not taught or has not been taught for some time past in the day schools systematically, then those who attend the evening classes will naturally be entirely unprepared for anything but the most elementary work; and that, as a rule, is what they seldom have patience to go through. To humor them the teacher gives them work of a more advanced kind, perhaps the copying of a piece of machinery or drawing of a house, forgetting that this is the application of drawing to a special purpose, before the beginner knows how to draw. The result is monotonously uniform; the pupil finds it impossible to do the work; he looses confidence in himself and his teacher, and gives up in despair.
>
> Another mistake commonly made in these classes is to allot a different kind of work to each pupil, so that every one requires individual instruction upon his particular copy, to be able to do anything at all. Now, suppose a class of 60 students to be taught by one teacher, and the lesson each evening to be of two hours' duration, that

would on such a plan enable the teacher to give two minutes' instruction per night to each student, which is comparatively valueless; even if the class consist of 30 students only it would give each one an average amount of instruction from the teacher of four minutes per night, which is of little more value than two minutes. The remedy for this is to have a course of class instruction laid down, through which all beginners must go, the teacher working before the pupils on the blackboard or on cartoon paper, the whole class following step by step. The teacher should have a large finished drawing of the exercise about to be wrought suspended within sight of his class, to show them what is going to be done, and some explanation and analysis should be given of it before commencing to draw; and then he should instruct them step by step in drawing the example before the class, which follows him as each step is taken, until the whole work is completed. A drawing thus made before the very eyes of the pupils will teach them more than a score of talks about it. If the class should consist of 60 pupils, all of whom are listening, drawing, and following in the steps of the teacher, then a lesson of two hours so utilized will give each pupil two hours of healthy, convincing instruction; left much to himself, by the presence of the teacher on the platform, the student will not only be instructed, but educated, taught and led, nourished and developed.

A few moments given to individual correction of errors, at the end of each hour, by the teacher, is all that is necessary to complete such a class lesson as is described.

The first year's instruction of a class should be wholly given in this manner upon every branch taught. Afterwards the instruction may be more individual for those only who have gone through the preliminary steps satisfactorily; though every subject coming under the name of industrial drawing may be more efficiently taught by class instruction on the same subject than by individual teaching on different examples or copies.

It is of the essence of this style of teaching that the teacher should work before the class; for though the large finished cartoon made by the teacher may convey the idea of *what has to be done,* and very clearly, yet it is the repetition of this in the order in which it was done that will fix irrevocably in their minds, through their eyes and its duplication by themselves with their own hands, *the process of doing it,* and growth which has produced the result. Difficult or elaborate examples should not be taken for this class teaching, the idea being to teach the students *how* to draw truly and intelligently; and this can just as well be done on simple subjects as on difficult ones, oftentimes better. *When* students know how to draw they can draw what they like, if they choose, and the motive is sufficient.

Another cause of failure in evening classes is that teachers sometimes conduct them without having a plan of instruction upon which to proceed; or having a plan, it has been arranged to suit a theory, or to develop with hot-house rapidity some specialty in drawing, and not as the result of experience in the conduct of such classes. Either of these causes is sufficient to wreck a class, unless the theory is inspired; and inspiration is not common about such matters nowadays. I submit to the school committees of this State and to their officers a course of study, and some regulations for the management of classes, which have been carried out elsewhere under my own supervision, and which have been adopted by the school committee of Boston, and are now in successful operation in the free evening drawing schools of that city. Such a course as this may require modifications to suit it to the circumstances of any particular locality; but it is specially designed for class instruction, and if the teachers be competent, can be carried out to successful issue, even when the students are beginners. The second year's course, as will be seen, is only for those who have passed through the first year's, and should not be attempted by beginners.

I print the plan in full, because it may be of use to those who have found a difficulty in arranging one for themselves, and who might like to adopt one which has been well tried and proved to be practical.

PLAN OF INSTRUCTION IN INDUSTRIAL DRAWING FOR THE FREE EVENING DRAWING CLASSES OF THE CITY OF BOSTON, MASS. (*Arranged for a course of two years' class instruction by lectures and demonstrations*).

First year.—Elementary and general for all students.

Second year.—Applied elective in four branches: (1) Freehand designs; (2) machine drawing; (3) building construction; (4) ship draughting.

For the year 1880-'81.

Contents: Information for students, and regulations; diary of class lectures; list of certificate work; programme of examinations; awards of certificates and diplomas.

Arranged by Walter Smith, director of drawing; adopted by the school committee.

Information for students and regulations concerning the classes, both of first and second year.

Opening and closing of classes.—Public notice by advertisement will be annually given in the newspapers of the opening of the classes. They will this year be opened on the third Monday in October, and close on the Friday next preceding the third Monday in March.* An examination will be held during the last week of the term, after which certificates and diplomas will be distributed.

Admission, course of study, examination.—Applicants for admission must be over fifteen years of age. For the first years' course students will be admitted without examination. Those desiring to enter the second year's course will be examined in drawing from the object, for the freehand course, and in plane geometry for the instrumental course. New students who have not attended the classes before 1880 will be admitted only to the first year's course. Students are required to follow the course of study for the year and division to which they belong, and no other drawings but those named in the list, and the lecture exercises, are permitted to be drawn in the classes.

The first week in each annual session will be devoted to admitting and examining the applicants for admission; the week preceding the distribution of certificates and diplomas will be devoted to the final examinations. No student will be admitted after the last meeting of the classes in October and in January, except by express permission of the standing committee.

Time and regularity in attendance.—The classes will be open on Monday, Wednesday, and Friday evenings in each week, during the period specified above, from 7.30 to 9.30 each evening, and students must be in their places at that time, the rooms being open and the teachers present at 7.15. They will be required to sign a written agreement to attend the whole session, punctually and regularly, unless prevented by sickness or removal from the district in which the class is held, of which notice must be given to the principal or head assistant of each school. This written agreement must be filled up and presented for admission to the classes by each student, during the first week of the annual session.

Instruments.—Students requiring the loan of instruments in the second year's course must apply to the curator for them each evening between 7.15 and 7.30, so as to be in their places at 7.30.

Division of the year into terms. Holidays and vacations.—The year is divided into first and second terms: the first being the months of October, November, and December; the second being from the beginning of January until the end of the annual session, comprising the months of January, February, and March. Holidays and vacations are the same as in day schools. N. B.—The term division here indicated cannot be strictly carried out during the present year, as the schools will not open until the third Monday in October.

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*This is a local arrangement. The classes should open on the first Monday in October and close about the end of April.

Size and number of drawings in each year's course.—In the first year's course twelve drawings are required; to be made, or mounted when done, on half-imperial sheets, 15 by 21 inches.

In the second year's course eight drawings are required; made, or mounted when done, on full imperial sheets, except in ship draughting. One drawing from every set of works in each year will be selected and retained by the school committee as city property, for purposes of record. No drawing is to be taken away from the school when finished until the end of the session. Every drawing, when finished, will be initialed by the teacher of the class.

When accepted by the director of drawing, it will be stamped by him, and form one of the certificate set. Records of drawings accepted, examinations passed, and certificates awarded, will be kept by the head instructor of each class, and the general record of all the classes be preserved by the officers of the school committee at this office.

Conduct of students.—Every student will be furnished with a copy of this plan of instruction on admission, and is expected to read it, and to abide by all the rules and regulations herein stated, as a condition of attendance on the classes. Attendance will, therefore, be regarded as evidence of agreement to comply with the regulations and follow the course of instruction.

PROGRAMME.—*Diary of class instruction, by lectures—first year's course—general.*

Days.	Hours.	Subjects.	
		First term.	Second term.
Monday	7½ to 8½	Geometrical drawing	Perspective.
	8½ to 9½	Building construction	Machine drawing.
Wednesday	7½ to 8½	Model drawing, outline copy	Model drawing, object. Shaded.
	8½ to 9½	Model drawing, object	Model drawing, object. Shaded.
Friday	7½ to 8½	Historic ornament	Elementary design.
	8½ to 9½	Botanical analysis	Applied design.

Second year's course—elective. Freehand division.

Days.	Hours.	Subjects.	
		First term.	Second term.
Monday	7½ to 8½; 8½ to 9½	Lectures	Applied design.
Wednesday	7½ to 8½; 8½ to 9½	Cast drawing	Applied design.
Friday	7½ to 8½; 8½ to 9½	Design	Applied design.

Instrumental division.

Days.	Hours.	Subjects.			
		1st term. General.	2d term. Elective.		
Monday	7½ to 8½	Geometrical plane	Machine	Build. con.	Ship draughting.
	8½ to 9½	Geometrical solid	Screws	Masonry	Designs.
Wednesday	7½ to 8½ 8½ to 9½	Isometric proj. Shadows.	Wheels	Carpentry	Designs.
Friday	7½ to 8½ 8½ to 9½	Intersection solids Development surfaces	Machinery	House	Designs.

COURSES OF STUDY.—FIRST YEAR'S COURSE: INDUSTRIAL DRAWING.—THIRD GRADE.

List of drawings to be executed in the year.—General course for all the students.

Instrumental drawing.—(1) A sheet of geometrical problems, plane and solid; (2) a sheet of perspective problems, parallel, angular, oblique; (3) a sheet of machine drawing from lectures; (4) a sheet of building construction from lectures.

Freehand drawing.—(5) A sheet of model drawing in outline from object; (6) a sheet of two model drawings from copy, and the object, shaded with pencil or crayon; (7) a sheet of two model drawings from the copy, and the object, shaded with stump; (8) a sheet of two model drawings from copy, and the object, shaded with brush; (9) a sheet of two outline drawings from natural foliage and common objects; (10) a sheet of designs, one elementary, one applied; (11) a sheet of botanical analysis of a plant; (12) a sheet of analysis of three styles of historic ornament.

Examinations for certificate.

The above drawings having been submitted and approved, time examination for the completion of the certificate will be held at the end of the annual session, as follows: (1) Geometrical drawing; (2) perspective; (3) machine drawing; (4) building construction; (5) model drawing, point and stump; (6) historical ornament, memory of design.

One hour given for each subject.

SECOND YEAR'S COURSE.—INDUSTRIAL DRAWING.—THIRD GRADE.

Students must have obtained the certificate for the first year's course, or passed the examinations.

List of drawings to be executed during the year.

Freehand drawing.—(1) Sheet of group of geometric models and vase, shaded in any medium, point, stump, or brush, from solid; (2) sheet of historic ornament, shaded, from cast' in any medium; (3) sheet of detail, mask, bust, or extremities of human figure, in outline or shaded from copy; (4) sheet of detail, mask, bust, or extremities of human figure, shaded from cast.

Industrial design.—(5) Applied design for flat surface; (6) applied design for sculptured ornament; (7) applied design for an object and its ornament; (8) applied design for any subject chosen by student.

Examination for certificate or diploma.

The above drawings and designs having been submitted and approved, time examinations for the completion of the certificate, or diploma, will be held at the end of the annual session, as follows: (1) Drawing in light and shade from a group of models; (2) drawing in light and shade historic ornament from cast; (3) drawing from memory of original design.

Two hours allowed for each exercise.

NOTE.—Students who have obtained the first year's certificate will, on completion of this year's course and passing examination, receive a diploma.

SECOND YEAR'S COURSE.—INDUSTRIAL DRAWING.—THIRD GRADE.

Students must have obtained the certificate for the first year's course or passed the examination.

List of drawings to be executed during the year.—First term.—General.

Instrumental drawing.—(1) Sheet of plane geometrical problems, advanced subjects, and curves; (2) sheet of orthographic projection, lines, planes, and solids. Solids to have plane and curved surfaces; (3) sheet of intersection of solids, development of surface, orthographic; (4) sheet of projection of shadows, orthographic; (5) sheet of isometric projection of solids and shado

Second term.—Elective.

Machine drawing.—(6) Sheet of screws; (7) sheet of wheels; (8) machine, from blackboard, sections and details.

Building construction.—(6) Sheet of masonry, brickwork; (7) carpentry; (8) plans, elevation of house, details.

Ship draughting.—(6) Plan of boat or ship; (7) section of boat or ship; (8) elevation of boat or ship.

Examination for certificate or diploma.

The above drawings and designs having been submitted and approved, time examination for the completion of the certificate or diploma will be held at the end of the annual session, as follows: (1) Geometrical problems, plane and solid; (2) isometric problems and shadows; (3) machine drawing, or building construction, or ship draughting.

Two hours allowed for each exercise.

NOTE.—Students who have obtained the first year's certificate will, on completion of this year's work and passing the examination, receive the diploma.

The final words of the director about the evening classes appear in the Forty-fifth Annual Report of the Board of Education for 1880–'81. He thus remarks upon the necessity for thorough training and punctual and continued attendance:

The absence of qualified teachers for these evening classes is being to some extent remedied by the training given in the normal art school to students who become their teachers. But that which is equally necessary to successful instruction and administration of these classes, viz, experience, cannot be given in a normal school nor to young teachers; and until such experience has been acquired, both by committees and teachers, the success of the classes must be variable.

I have considered that the most valuable work which could be done to advance good results was the training of promising youths of both sexes to become teachers, when the opportunity to do so should be given them in the class room; and to formulate for their guidance practical plans of instruction, to be carried out in such classes as might be intrusted to them. The action of the normal school has secured the first of these aids; and the scheme for class instruction which I drew up for the evening classes of the city of Boston, and is now in its second year of successful operation in them, furnished the second. The publication of this scheme in the last annual report of the board of education, and in a separate form as one of the papers issued for the information and guidance of the normal art school students, has made it available for all the evening drawing schools in the State; and either as it stood, or modified to suit local arrangements, it has been widely adopted.

The absence of a systematic plan of study, and desultory or individual instruction of pupils in evening classes, is responsible for much of the want of interest felt by the classes, and for the greater part of the irregularity of attendance by the individual pupils. This frivolity and irregularity of attendance has been the most crying evil, and the most difficult to cure; but it has already been seriously diminished in Boston, and will, I am persuaded, be practically cured by the scheme of study now introduced, if it should be persevered with, and may be as effectually prevented in other places by adoption of the same means.

As this is a practical question, viz, the attendance of pupils, and one which affects the existence as well as the efficiency of these evening classes, it may be useful to describe here the experience of the city of Boston in this matter.

When the classes were first opened, about eleven years ago, it was found that a large number of pupils offered themselves for instruction, and continued to do so at the commencement of each annual winter term, who felt no responsibility to attend [illegible] attend even for a time regularly. Thus the classes were large at first, and dwindled away as the session progressed, or were reënforced by new pupils who were admitted at any period of the course; and few who began remained to the end of the term. Many efforts were made to remedy an evil so great, and in the year 1875 I proposed a plan of class instruction and a form of admission of students to the classes, by which they engaged, if admitted, "to attend regularly through the whole course from October to April, unless prevented by sickness or removal from the neighborhood."

This proposal, perfectly just as it would have been to the public which paid for the instruction, and to earnest students who sought it, was regarded as an interference with the right of the pupils to study what subjects they chose, and their freedom to attend as often as they conveniently could, and so the plan was not accepted. The evils continued and were brought to the attention of the committee by Dr. Eliot, the superintendent of schools, in the winter of 1879-'80, who suggested, entirely from his own observation and without having conferred with me on the subject, the cause of the evil, viz, the absence of a uniform plan of study, and the irresponsibility felt by the students to attend regularly. Upon his suggestion to, and by direction of, the school committee, I was required, in the spring of 1880, to report upon the evening drawing schools, and did so, bringing into my report the proposal of 1875 which had not been then accepted. This scheme for the reorganization of the schools, resuscitated in 1880, was adopted by the committee and went into operation in the fall of that year.

It provided for (1) a two years' course of study: (*a*) elementary, (*b*) advanced or technical; (2) admission of students by examination and on a written engagementon their part to attend regularly or forfeit their privilege, unless absences were satisfactorily accounted for; (3) class instruction by teachers, and a uniform and systematic course of studies by the pupils; (4) examinations at the end of the course in all the subjects taught, and award of certificates to those who produced the full number of works required and passed the examination.

The working out of this scheme during the session of 1880-'81 (from October, 1880, to April, 1881), was closely supervised by myself, and though the work was new to most of the instructors, and required more discipline and attention on the part of the pupils than was expected before, the result was considered to be eminently satisfactory on the whole. At the end of the session I examined every exercise presented, produced either in the classes during the year or at the examination at the end of it, and ranked them, after the instructors had prepared them for the scrutiny, and recorded their own opinion of the works. This supervision and examination gave me a thorough opportunity to see the influence of the change which had been made, and to compare the statistics of attendance and results of instruction with those of previous years. Without a doubt there was a development entirely in the right direction.

IV.

(3) STATE EXHIBITIONS OF DRAWING.

There was naturally a desire on the part of the public to see for themselves what this new study of industrial drawing, about which there had been so much discussion, really was. A similar interest was felt by teachers and pupils in the several local classes, or in the different public schools in Boston and the other towns, arising from a desire to compare their own work with that of others, in order to establish a standard of excellence, the attainment of which was to be striven for.

The advocates of the new study would also be glad to show how much had been done in so short a time; the opponents how little.

It was clear that an exhibition of the work accomplished during the year would meet equally these harmonious or conflicting desires; so the holding of such an exhibition was a matter of course.

The board of education in the thirty-sixth annual report, 1871–'72, comment thus:

> As a means of ascertaining what had been done in the different free industrial drawing classes of the cities and towns where they had been established, and of creating a deeper and more intelligent interest in art education, an exhibition of the works produced by the students was held in Boston, on May, 16, 17, and 18, 1872, in conjunction with that of the pupils of the Boston public schools. This exhibition attracted a large number of visitors, and evidently imparted a new impulse to the movement in favor of art culture. A report on the merits of the productions exhibited was made by a competent board of examiners, and largely disseminated through the newspaper press.

The art director, in his first annual report, which is included in the same volume, has this to say of the exhibition:

> In order that it might be seen what each city was doing in the way of encouraging industrial drawing, an exhibition of the works produced in the free evening classes was held on May 16, 17, and 18, 1872, at the Horticultural Hall, Boston. Owing to the fact that the exhibition was held when many classes had broken up and the works produced had been distributed several successful classes were not represented in the exhibition. The works of the classes in eleven cities were exhibited, and during the three days the exhibition remained open it was thronged by a crowd of most interested spectators, and was favorably reviewed by the newspapers at the time. At the same time and place the exercises of pupils in the city of Boston day schools were exhibited, and served to add to the interest felt in the display. Though no substantial recognitions were awarded to successful students, the State board appointed a board of examiners to mark with approval works of especial merit, and the best works were labelled "excellent," those next in merit were marked "honorable mention."
>
> The report of the examiners with all the details of the awards will be found attached to this report.
>
> My belief is, judging from the experience of other countries, that such an exhibition as this should be annual, so that all may see the standard of the best, and the strength of the strongest; and that the weak may be encouraged and merit rewarded. Each school will thus impart strength to the others and gain new vigor itself.

In a circular letter transmitting the official report of the board of examiners of the exhibition the art director says further:

> Your attention is particularly directed to the suggestions of the board of examiners concerning the necessity of securing for the classes proper examples for study, which being provided even to a very limited extent, have had so marked an effect upon the Boston classes.
>
> Having visited the drawing classes in the various cities, seen their work in the class-rooms, and conferred with their teachers, I wish to add my testimony as State director of art education to the opinion expressed by the board of examiners, viz, that under the circumstances all the classes have done admirably, and that when other cities have provided the necessary appliances for art study which the city of Boston has, then a fair comparison may be made between its works and the works of all the other cities. Until that is done the students and teachers left unprovided with means of study must labor under the greatest disadvantage. Before the commencement of classes next year I hope that the experience obtained already will be made use of to remedy the deficiency.

The following extracts from the report of the board of examiners, appointed by the Massachusetts State board of education, on the first exhibition of works from the free industrial drawing classes of Massachusetts, give a view of the exhibition as a whole, and point out what, in their judgment, is essential to secure successful work by all similar classes. The specific comments and detailed awards are of course here omitted:

Dear Sir: Having been appointed to examine the drawings displayed in the exhibition of the works of the free industrial drawing classes of the State of Massachusetts, and to award marks of distinction to the most deserving, we have great pleasure in submitting the following report:

The exhibition repesents the results obtained in the free evening drawing schools held during the past winter in Haverhill, Lawrence, Lowell, Lynn, New Bedford, Newton, Northampton, Springfield, Taunton, Worcester, and Boston. There are no works of the classes in Cambridge, Charlestown, Fall River, Fitchburg, Somerville, Newburyport, Pittsfield, and Salem. We understand that no classes have as yet been organized in the other towns included within the scope of the statute; Chelsea, Gloucester, Holyoke, and North Adams. The exhibition consists of about six hundred drawings, comprising exercises from the black-board, of freehand, geometrical, mechanical, isometrical, and constructional drawing, in outline and tinted; drawing in light and shade and color of foliage, figures, animal forms, machine drawing, and architectural tinting, designs for buildings, for carpets, &c., natural objects, geometric solids in shadow and color, and many other branches of industrial art study.

The difficulty of selecting the works most deserving of commendation, when the general range of merit was so uniform as we found it, and the excellence in some respects so great, rendered our task by no means an easy one. We have designated the works of greatest merit by the word "excellent," to the number of twenty-seven, giving an honorable mention to eighty-nine others." * * *

The Boston school stands first, both in the number of the drawings, furnishing two hundred and eighty-two altogether, or nearly one-half of the whole collection, and the variety and excellence of the work, especially the freehand work. The mark of excellent was given to ten, and an honorable mention to forty. The examples of ornamental and figure work, both from the flat copy and from models, are quite beyond what any of the other schools have to show. The architectural and engineering work is also to be noticed. This excellence is to be mainly imputed, it seems to us, to the very superior advantages these classes have enjoyed in the respect of casts, solid models, and flat copies. It is not that the instruction has been better here than elsewhere, but that proper appliances have rendered it more efficient.

This is, in our judgment, the key to the whole question. It is perfectly plain that there is in the State no lack of ability on the part either of pupils or teachers, and no want of support on the part of the public. The results already achieved are excellent—remarkably so, if we consider that in most of these towns there was no proper preparation for the work, and no appliances whatever except what the teachers could bring in their hands. There is no reason why any of the schools here represented should not, in future, present work equal to the best. A moderate outlay of money upon proper models, suited to the special wants of each place, would put all these schools upon an absolutely equal footing. The marked superiority in almost every department of the work of the Boston school is one that ought to disappear entirely in future years. The exhibition must convince every visitor that this is the point upon which the whole movement hangs. Nothing but the want of suitable models can prevent a great and permanent success. * * *

C. C. PERKINS,
W. R. WARE,
WALTER SMITH,
State Board of Examiners.

John D. Philbrick, Esq.,
Chairman of the Exhibition Committee of the State Board of Education.

The annual report of the State art director for 1873, printed in the thirty-seventh report of the board of education, thus refers to the holding of the second State exhibition of drawings:

> This exhibition was held in Boston, in the early part of the month of May, simultaneously with that of Boston public schools, both at Horticultural Hall. A full report upon it by the board of examiners appointed by the State board of education was made at the time, embodying the awards of the examiners, and is submitted herewith as an appendix.
>
> It is, perhaps, unnecessary to say that I concur entirely in the suggestions made therein, and hope that some regulations may be made which will give a permanent character to the exhibitions, provide for the display of work from the public day-schools, and, I would add, enable the judges to confer some more substantial mark of approval on satisfactory works than the words "excellent" and "honorable mention," printed on slips of paper, and pasted on approved drawings. This might be secured by the offer of medals and prizes, the latter to consist of sets of different materials used in drawing, and books on art subjects.

The report made by the board of examiners on the second exhibition, which is appended to the art director's report, is here inserted entire—omitting the detail of awards—for the reason that it discusses intelligently many of the matters which are essential to a full consideration of this subject of industrial art education.

It is interesting to note in this report how rapidly interest in the subject has extended throughout the State, and how marked has been the improvement in the work of the pupils.

BOSTON, *May* 2, 1873.

To Chairman of the Exhibition Committee of the State Board of Education:

DEAR SIR: We, the examiners appointed by the State to inspect the drawings sent to the second annual exhibition, and to award marks of distinction to the most meritorious, have the honor to submit the following report:

It gives us great pleasure to preface it by expressing our opinion as to the decided superiority of the present exhibition over that of last year, in many important respects. The reason of this is evident.

In our report of last year we pointed out why Boston schools stood, as they still stand, in the first rank. It was not because they had enjoyed superior advantages in instruction, or that the pupils were persons of superior ability, but because in both the freehand and the instrumental work they had casts, solid models, and flat examples to draw from, which were absolutely wanting in other schools. In few of them has this want as yet been supplied, but those have made such marked progress that our former opinion is strengthened, and now, as then, we regard the supply of the necessary appliances for study as the key to the whole question of success or comparative failure.

In support of this opinion we may cite the case of the Worcester schools, to which although the casts and flat examples from which drawings are exhibited were only in use for a few weeks before the opening of the exhibition, six honorable mentions and two excellents have been awarded. Worcester ranks next to Boston among the cities contributing to the exhibition, and there can be no question that with the efforts lately made there to supply the pupils with proper objects of study the difference still existing will be still further diminished. What is true of Worcester may be said in part of Lowell and other cities.

Lowell exhibited no drawings from casts, for the simple reason that her schools are not yet supplied with them, but the elementary work of the students shows that they are quite prepared for such study, and it is to be hoped that next year's work will show that opportunity for it has been given them. Last year Lowell exhibited seventy drawings, and received the award of three excellents and six honorable mentions. This year she exhibited one hundred and one drawings, and received three excellents and six honorable mentions.

The immense amount of work from Taunton shows how zealously the study of drawing has been taken up there. Of the drawings sent, half had to be excluded on account of the want of space in the hall. Much of the work exhibited was excellent, especially the line drawings of different kinds, executed with instruments. The lack of variety noticeable is only to be attributed to the paucity of models, which we cannot too often signalize.

Lynn, Fall River, Lawrence, Haverhill, Northampton, and Newburyport deserve, each in its degree, the same praise and the like excuse. Each showed work in which there was much to commend, and excellent promise for the future if this evident necessity is satisfied.

The variety and extent of work exhibited by the Boston free evening drawing-classes was very great. Instead of one such school exhibiting, as was the case last year, we now have five schools on the list there, namely, in Appleton street, Tennyson street, Mason street, in South Boston, and in Dorchester—we might even say six, as the two classes at Appleton street were distinct. This great increase in the number of schools is the more gratifying as a sign of the growth of the movement in favor of industrial drawing, since the excellence of the work exhibited was in proportion to the widening of the field of operations. The Dorchester school, which was not opened until February, sent some excellent work, both freehand and geometrical; the Tennyson street school exhibited architectural, isometric, and mechanical examples, some of which were surprisingly good. The drawings of the ship-draughting class, which did not come in until after the exhibition was concluded, displayed some excellent work also; and the fact that the board of examiners did not examine them in concert was the cause alone of no awards of distinction being made to them. The Mason street evening high school took still higher ground in instrumental and architectural drawing, and, although only established during the past winter, and by no means so well arranged as the Tennyson street school, which in this respect is the best in the city, showed the great advantage to be derived from the study of geometry, for which the pupils have enjoyed special advantages.

The South Boston school, which is supported by the Hawes fund, is a proof of how much good work can be done where proper models as well as good teachers are provided.

The Appleton street school exhibited very good freehand work, and some remarkable drawings from the cast. Four among them, to which the ticket of excellent was affixed, might safely be placed in any European exhibition of this kind, without risk of losing the high place which belongs to them in the Boston exhibition. With such present results we can have no hesitation in repeating what was said in the conclusion of the last year's report. We are more and more convinced that here and elsewhere "nothing but the want of proper models can prevent a great and permanent success."

Of the ten schools above mentioned as taking part in this exhibition three are newly established. There are also eleven cities and towns, which, though coming within the provisions of the law requiring every town or city of 10,000 inhabitants and upwards to support free evening drawing schools, were not represented in this exhibition. It is understood that in six of these places, viz, Cambridge, Gloucester, Pittsfield, Fitchburg, Holyoke, and North Adams, no schools have been held this winter, that which last year was maintained in the first-named having been discontinued. The others, Springfield, Salem, New Bedford, Somerville, are Charlestown, and understood to have maintained schools in accordance with the statute, but have not taken part in this exhibition.

Of these facts this committee, as such, have, of course, no official cognizance, and cannot, perhaps, properly do more than call the attention of the board of education to the subject for such action, or representations, as they may find expedient. We may, however, be permitted to remark that the towns which neglect to comply with the statute, are depriving those of their citizens who desire these advantages of what is their legal right, and it is probable that a moderate pressure exercised by such persons in conjuction with the authority of the State, would suffice to bring them into conformity with the law. Meanwhile these persons are compelled to seek such instruction at their own expense in towns where these schools are established, or where no such schools are within reach to forego it altogether.

The attitude of those towns which, though maintaining schools, have declined to take part in this exhibition, is perhaps a little more difficult to deal with directly. It is probably to be attributed to a certain unwillingness on the part of these schools to appear in competition with others, and especially with the Boston schools, which are more fully equipped than they. Something may also be due to the necessarily unsatisfactory nature of judgments based upon such results as are here exhibited, so long as each school pursues an independent system of instruction. It is in this case almost impossible, as the experience of both this year and last has shown, to make a perfectly satisfactory comparison of the results, and the relative merit of the schools cannot be exactly represented. The recommendations made in a latter part of this report may, if acted upon, do much to obviate these objections. Meanwhile the serviceableness of these exhibitions is greatly limited by this abstention, and the progress of all the schools hindered just so far as they are prevented from profiting by each other's experience.

The place of these schools was, however, more than made good by the classes of architectural and industrial design, established in the Institute of Technology, which cordially complied with the invitation extended to them, and furnished an admirable and unique collection of drawings, which rendered the limited space that could be given to them one of the most attractive parts of the exhibition.

The architectural drawings, about forty in number, chiefly original designs by the regular and special students in the department of architecture at the institute, showed care, thoughtfulness, and originality in the designing, and great nicety of execution, They consisted of plans, sections, elevations, and details of a variety of buildings, such as a painter's dwelling-house, a small museum of art, a natural-history building, a summer-house, with bridges, and a school of chemistry, finished in India ink, and colored.

The Lowell Free School of Industrial Design, also established at the Institute of Technology, exhibited about a hundred and fifty drawings in color, partly copies and partly original designs of muslins, cashmeres, carpets, paper-hangings, and oil-cloths. This school is intended to train young men and women in practical designing for manufactures, and the result exhibited not only very rapid progress in the technical handling peculiar to this kind of work, but gave gratifying evidences of aptitude and special ability in a field in which our people have been supposed, and have supposed themselves, to be naturally deficient.

Although the examination and criticism of these drawings does not come within our present duty, we cannot pass them by in silence, illustrating as they do the practical application, in two important branches of the arts of design, of the knowledge and taste and skill which schools of art are intended to develop. A still greater success would doubtless have been achieved by those classes, if their students could have had the advantages of elementary training which the day and evening schools now offer. Some part of the instruction given to those classes might, perhaps, by and by, be introduced in the evening schools. The simple exercises in original design, also, exhibited by the pupils in the Boston public schools, though mainly confined to the symmetrical arrangement of geometrical forms, exhibit the same capacity for original design in a marked degree, and might well be made a feature in the course of evening instruction.

It is to be hoped that the schools of art in the chief manufacturing towns of the

State will turn their attention to these studies, as it is evident that great capacity for original design exists, and is only waiting to be called forth. This is the direction in which such schools as that at Lowell, for instance, would naturally develop, and it is a field they are fully prepared to enter upon. In such places proper models and examples for this kind of work and competent instructors cannot be difficult to obtain.

It is on account of the want of proper models of any sort that we still have drawings sent in to our exhibitions which bear no relation either to any form of industrial art or to high art. The imperfect imitation of natural objects which distinguishes many of them is always offensive, whereas any subject which shows an obedience to the laws of geometrical harmony is always pleasing. It is geometry and the kindred branches of study which teach the value of the three great principles of design, viz, unity, symmetry, and continuity, and it is in these that a right system of education for the eye is to be taught.

We hope that the class of drawings to which we refer, whose chief characteristic is a weak prettiness, may be less fully represented in the exhibition next year, and that their place may be taken by more serious and systematic work. But for this, as we cannot too much insist, good examples are essential.

The mechanical drawings shown in the exhibition, including in that term not only the drawings of machinery, but everything executed with instruments, was as a rule excellent, and, except in one or two towns, of better quality than the freehand work. The best results were produced in the schools where, as in the evening high school and the Haverhill school, a careful course in the construction of geometrical figures preceded other work. In these two schools, as well as at Lowell, Taunton, and Lawrence, very good work was done in the elements of architectural drawing.

The chief trouble about this class of work lies in the difficulty of distinguishing accuracy of workmanship from niceness of finish. In making our awards, it was impossible not to give a preference to those examples which showed the clearest and sharpest lines. Yet to a large part of those for whose benefit these schools are established, this technical nicety, essential to a professional draughtsman, is of no practical use.

The industrial drawing of free evening schools in communities largely engaged in manufactures should be adapted to the actual needs and capacity of the pupils who avail themselves of the benefit of such schools, rather than to the attainment of a standard of excellence in execution which can only be reached by devoting a large portion of the time allotted to the single effort of finishing one or two pieces. A large proportion of the pupils of these classes are machinists and carpenters, and their immediate needs in the direction of drawing are: 1st. To understand a drawing, so as to be able to take it from the draughtsman and produce the object represented without the assistance and constant supervision of a foreman. 2d. To be able to express completely and accurately their own ideas by means of drawing. 3d. To lay out patterns and solve problems graphically, thus saving much time which is often spent in the slow process of making a model of a new mechanism or construction as the only means of illustrating it. To accomplish these results, it is important that the pupil have some knowledge of geometry, plane projection, descriptive geometry, and of the conventional methods of representation, together with practice in the use of his pencil, scale, and compasses. The practical value of drawings which artisans have to deal with depends upon their substantial accuracy, not upon their finish; so that the lines are of the right shape and size, and in the right place, it is of very little moment whether they are rough or smooth, wide or narrow. In teaching classes composed mostly of mechanics, it should be the object to produce working drawings in the lines of industry which the pupil follows, rather than pictures of his products.

When the evening classes are composed of pupils who have been trained in the public schools under the system now coming into successful operation, they will be able to add to these essential qualities of their drawings the desirable effects of light and shade, color, and artistic finish.

Besides the general suggestions contained in the preceding paragraphs, we would respectfully recommend to the board of education certain special measures which would, it seems to us, contribute materially to the efficiency of these schools and to the value of these exhibitions.

First. We would suggest that the exhibitions be declared annual, and the time fixed at which they shall be held. For want of certainty on these points there is a good deal of hesitation in some parts of the State in preparing drawings for the exhibition, and its advantage as a stimulus to the schools is everywhere greatly impaired. It would be a convenience and greatly facilitate their arrangement if the drawings could be made of uniform size.

Second. The classification of the work in the schools, according to the different stages established by the board, should be insisted upon as far as practicable. It would not only make the administration of the system more uniform and efficient, but would make it much easier than it now is to give a just award among the drawings exhibited. At present, good work of a lower grade is likely to suffer by being brought into comparison with work of a higher class. The label attached to each drawing should designate the class to which it belongs, and the awards of future committees should be given stage by stage.

Third. The great interest attached to the exhibition of drawings from the Boston public and high schools, which occupied the upper hall simultaneously with the exhibition of the State evening schools in the lower halls, leads us to suggest that in future exhibitions the day schools throughout the State, as well as the night schools, should be represented. This would enable the board of education, as well as the public, to obtain an idea of the general results of the system pursued, and greatly increase its usefulness both to teachers and pupils, both in the way of example and in the way of stimulus.

The following table exhibits the number of drawings exhibited and the awards made:

	Total drawings exhibited.	Freehand.	Instrumental.	Honorable mention.	Excellent.
Boston:					
Starr King classes	183	....	183	14	2
Appleton street classes	104	104	....	15	12
Mason street classes	82	....	82	12	3
Dorchester classes	19	15	4	4	....
Institute of Technology, Lowell course of design	150	150	....	(*)	(*)
Institute of Technology, architectural class	50	....	50	(*)	(*)
South Boston School of Art	92	56	36	13	2
Worcester	110	48	62	7	5
Worcester Mechanics' Association	50	15	35	1	1
Lowell	101	34	67	6	3
Taunton	80	30	56	15	1
Newburyport	39	30	9	1	....
Chelsea	26	21	5	4	....
Haverhill	25	....	25	5	....
Lawrence	20	....	20	4	1
Newton	24	17	7	7	....
Fall River	21	8	13	1	....
Northampton	19	....	19	3	....
Lynn	8	1	7	1	....
	1.159	479	680	113	30

* Not subject to awards.

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C. C. PERKINS,
W. R. WARE,
C. H. MORGAN,
W. D. BRAY,
WALTER SMITH,
State Board of Examiners.

The tables of awards to the individual pupils of the several schools, which followed in the report of the examiners, are omitted.

In his third annual report, that for the year 1874, printed with the thirty-eighth annual report of the board, the art director states that the annual exhibition of drawings has been very largely attended and comments upon the improvement in the work shown.

The board of examiners report at length, and in detail, and point out various improvements as a result of the adoption of suggestions made by them in previous reports. Their analysis of the several collections shown is interesting and must have been of value to the participants in the exhibition.

In 1875 the art director states that the exhibition was open four days instead of three, as heretofore, and that, by actual count, it was visited by thirty thousand visitors in two days. The distinctive feature of this exhibition was the display made by the public schools of several cities in response to the invitation of the board. He considers the study of such an exhibition the most valuable of instructors to teachers of drawing. The report of the board of examiners, widely circulated at the time, is not reprinted in this volume. A summary of the four exhibitions shows the following totals of drawings shown: In 1872, 612; 1873, 1,200; 1874, 1,537; 1875, 3,082. These were shown by eighteen cities and towns, Boston each year contributing about one-third of all drawings shown.

The exhibition in 1876 was held in March with the purpose of making from the drawings then shown a selection to be sent to the Centennial. This early exhibition attracted great attention, over thirty thousand visitors crowding the halls. Two hundred and forty-one frames, containing nine hundred and seventeen drawings, and fifty-one portfolios containing many thousand drawings, were chosen and sent to the Centennial. The classes and schools of twenty-four towns and cities, besides the Normal Art School, made up this contribution, which was greatly admired and carefully studied at the Centennial.

The forty-first and forty-second volumes of Annual Reports of the State Board of Education contain no reports by the art director, and consequently no notice of these exhibitions, which, however, seem to have been held each year.

In his report for the year 1879, which is in the volume of the Forty-third Report of the Board of Education for 1878–'79, the art director devotes several pages to the exhibition of that year, in which the report of the examiners is included. Professor Smith's comments and extracts from the examiners' report are given:

THE ANNUAL EXHIBITION OF INDUSTRIAL DRAWING FROM DIFFERENT CITIES AND TOWNS.

This exhibition was held in the month of May at Horticultural Hall, Boston, and was the eighth of its kind, the first having been held in 1872.

The origin of the exhibitions was a desire on the part of the committees and teachers to see what was being done in the matter of teaching industrial drawing in the several cities and towns where the law of 1870 was being carried out. There was another plea made for such annual exhibitions, which the board of education considered a strong one, viz: That, by a system of awards to the good work the teachers, as well as the public, might learn from competent judges the character of work which should be pursued in the schools and classes.

For such good reasons the board decided on holding the exhibitions, and appointed a board of judges to decide upon the merits of the productions and award marks of approbation to excellent commendable specimens.

The exhibitions having accomplished the object for which they were instituted, visited by all the teachers of drawing in the State, the strong points in the display of each city have been noted, and every teacher has been strengthened by the suggestions offered.

There has also been a gradual elimination of wrong methods of instruction by a systematic discouragement of them in the withholding from such works of awards made by the judges. Perhaps in no other way could so much general information be disseminated, having more weight, or be accomplished more economically than in such exhibitions as these.

The report of the board of judges appointed by the State board of education for the year 1879 contains so much of interest on the subject that I take the liberty of introducing it here for the purpose of bringing it to the public notice:

"It is gratifying to be able to report a very decided advance in the character of work from the public day schools. The marked feature in this part of the display is the systematic arrangement of the subject of industrial drawing, to adapt it by careful grading to the capacities of pupils at all the school ages; having a clearly defined purpose from the first exercise to the last, which is to lay the foundation broad and sure for industrial skill in the future. To those of our board who have been judges of these exhibitions, from the first one in 1872 to the present one — and we have all been careful observers of each exhibition — there is no feature of the exhibition of 1879 so pronounced as this systematic educational treatment of drawing in the public schools to make it useful as a preparation for the practical duties of life, as well as to employ it as an implement of education whereby knowledge of other studies may be acquired — rather than to consider it as an ornamental study only, of little practical importance. It is a triumph for drawing as a general elementary branch of education, that all mere picture making has been abolished, and a thing of work having industrial aims and means substituted for the thing of play that drawing used to be. This is the most encouraging element of the present exhibition; and we have some grounds for attributing the result to the holding of these annual displays, wherein the soundest and best work has been recognized and encouraged and less practical work distinctly discouraged. An original feature in this year's exhibition is the placing of all grades of drawing in the public schools on exhibition in one room, viz, the large hall of the building in which it is held. In this room are grouped together on a very simple plan drawings and designs from every grade of school in the city of Boston — primary, grammar, high, evening, and normal art schools. Thus the exercises, from the youngest children who draw on paper to those of the teacher graduating from the normal school, are clearly displayed and are arranged in sequence easily to be understood, corresponding exactly to the instruction pursued in all the grades. This is a fair representation of the subject, and as such we commend it to your attention as an answer to the question, 'What is industrial drawing?' so often asked by those who are not familiar with the matter."

Details of the several displays made by the different cities and towns followed, omitted here, not by reason of their want of interest, but from lack of space.

The examiners conclude thus:

"On the whole we are well satisfied with the progress displayed by the exhibition, and the character which the subject has gradually assumed through the influence of such exhibitions in the past.

"C. C. PERKINS.
"HENRY HITCHINGS.
"OTTO FUCHS.
"WALTER SMITH."

It will be observed that the work of the public schools now assumes the place almost wholly occupied by that of the free evening drawing classes in the early exhibitions. This is evidence of the growing prevalence of the study in public schools. Eventually it ought to result in the superior excellence of the work sent in by the evening drawing classes; for these, established at first to give those who had left school with no knowledge of drawing an equal chance with younger school children, ought to be able, when their own pupils are composed of those who have been taught elementary drawing in the public schools, to take them on to advanced and more difficult technical work, to teach them practical industrial drawing; that is, drawing adapted to immediate use in any of the mechanical arts. Such was Professor Smith's conception of their uses and functions, and towards this desideratum they ought to advance if this study of drawing is to be of the practical value anticipated.

The following is that part of the art director's report for 1880, referring to these exhibitions:

The increasing interest felt in the subject of industrial drawing throughout the State has had its influence upon the larger cities, making their efforts for systematizing instruction in the day schools more methodic, and broadening the scope and subjects of study in the free evening classes for youths and adults. In many places regular local public exhibitions of the drawings and designs produced in the day and evening schools are annually held, kept open for several days, and are largely visited by the citizens and parents of pupils. This is as it should be, for it is the wide diffusion of public interest in the subject that will eventually give industrial drawing its true position and influence as an educational agent. An actual exhibition of work done in the public schools of a city or town, on the regular plan of instruction, consisting of class work, selected for, but not specially prepared for exhibition, will do more to display the practical and industrial nature of the work than all the verbal explanations, criticisms, or discussions that can be offered. Drawing appeals essentially through the eye to the understanding, and to be appreciated or understood must be seen; so for this reason local exhibitions of drawing are precisely the best means of explaining the subject to the people. At the same time these local exhibitions do not serve the same purpose as the annual exhibition in Boston of work from all the localities, and it would be still valuable if representative selections of local exhibits could be sent to the metropolis of the State every year, as in previous years, for mutual comparison and instruction by the teachers. The influence of such a display in past years has been direct and elevating. But the number of towns and cities participating in these exhibitions has of late years decreased, partly from the belief that local exhibits are sufficient, and partly, as has been alleged, from the hard times, now happily passing away. I would suggest, therefore, that in future, by a coöperation as to the dates of local and general exhibits, the cities and towns should, after their local exhibitions are over, contribute a s tion held in Boston during the month of June, in each year. The State exhibition held last June at the Normal Art School in Boston, was fully attended by the public, and favorably commented on by the press. The best testimony to the actual value and influence of this annual display is to be found in the report of the judges, and as it furnishes also a record of the rewarded works, I incorporate it in this report.

JUDGES' REPORT.

"In respectfully presenting this report of the exhibition of drawings from day and evening schools in different cities of the State, and of drawings made in the Boston free evening drawing schools, now open at the State Normal Art Training School, we are happy to say that, though necessarily smaller than such a joint triennial exhibition as that held last year at Horticultural Hall, it seems to us in some respects even more worthy of commendation. We see in it still higher result sof the now generally-adopted system of careful grading of work to the capacities of pupils of all ages than before, and the same absence of all those obnoxious efforts at picture making which we took occasion to signalize in our last year's report as praiseworthy.

"We also see with undisguised satisfaction a great number of examples of design directly applied to industrial purposes, as in the excellent exhibit from New Bedford; a striking illustration of the advantages of class teaching furnished by the series of charcoal drawings from the Roxbury Free Evening Drawing School; and an evidence of what energy and enlightened effort can do to widen the limits of work in a practical direction, in the clay models of rosettes and objects of various kinds furnished by the pupils of the Newton High School. As the exhibition is held in the lower story of the Normal Art Training School, it is natural that any intelligent observer should ask what influence that school has exercised through its students upon the work here shown, and on inquiry he would find that it is in every respect important.

"Several of the State schools—as, for instance, those at Lawrence, Newton, Kingston, Dedham, and the Westboro' Reform School—have as teachers graduates or students of the State Normal Art Training School, and this is also the case with the Boston free evening drawing schools. The result is uniformity of method in systems of teaching, and a general harmony of effort to make what is taught practically useful to pupils in schools of all grades. Everywhere we see proof of that clearly defined purpose to lay a solid foundation for industrial skill, by the application of science and art to industry, which shows itself in the courses of study pursued at the State Normal Training School, and from it has extended to all other schools acting under its influence.

"*City of Boston.*—The Appleton street school exhibit deserves commendation for general excellence in cast and object drawing. The drawings marked by us as excellent are, perhaps, the best of their kind yet produced in any evening drawing school, and as such have received special marks of distinction through the award of diplomas to their authors. Several drawings in the Roxbury evening drawing school exhibit have received like testimonials of approval. The sketches in charcoal of quatrefoils, trefoils, architectural ornament, &c., on the upper line, represent class work — work done by all the pupils (amounting to about nine hundred sheets) from a single copy; while the heads, figures, friezes, &c., ranged below, represent individual work resulting from class work pursued in common. In the free evening drawing school exhibits from Charlestown, East Boston, and Roslindale, the freehand work is less remarkable, while that of the mechanical and architectural and ship draughting classes in these and the Tennyson street school attracts attention by its more systematic character and its general merit.

"*City of New Bedford.*—We quote a circular drawn up by the teacher in explanation of this remarkable exhibition, before proceeding to make a few remarks upon it:

"'*Works in industrial drawing and art from the New Bedford public schools.*—This exhibition represents the work of primary, grammar, and high schools. The manufactures shown are the work of pupils in the high school, and are given to illustrate the main object of all the instruction given in every grade, which is to bring into practical use the talent which might otherwise remain latent and undeveloped. Many of the graduates from the day schools are employed all over the country in responsible and remunerative positions. A large number of the pupils, even before leaving the public schools, are sought for by our manufacturers to take positions as designers and workmen in their establishments. The exhibition comprises series from 1 to 13; 1 to 4 consisting of primary school work, 5 to 9 of grammar school work, and the remainder from the high school.

"'ARTHUR CUMMING,
"'*Teacher of Drawing.*'

"In addition to this printed circular from the teacher, the superintendent of public schools writes as follows, in explanation of the exhibited work:

"'The embellishments on the glassware, metal plates, and wood frames, shown in connection with the exhibit of the New Bedford schools, are products of youth who have obtained remunerative employment as designers, decorators, &c., in consequence of proficiency attained in those schools. The engraving on the metal plates is labelled as the work of high school scholars, because the young men who executed it obtained employment prior to the period of graduation from school, and have been allowed to prosecute their art study with their class to the completion of the regular course. There is a constant demand for the services of youth of both sexes who have become skilful as designers, &c., in our schools; and our experience is amply exemplifying the wisdom of the statutes requiring drawing to be taught in public schools, and the excellence of the system of drawing by which our schools have been taught.

"'HENRY F. HARRINGTON,
"'*Superintendent.*'

"Little need be added to what is said in these circulars by way of explanation. We have, however, learned from Mr. Cumming that applications were made to the high school by certain New Bedford manufacturers for a number of boys who there received instruction in drawing from him, and that the request was granted on condition that the boys sent should continue their lessons at the high school. Could there be a better proof that the need for skilled labor has begun to be felt, and that those who can give it will not fail to find employment in those branches of industry which specially require artistic assistance?

"In the exhibit, besides the large frame containing examples of work in the day schools of New Bedford, which begins with drawings on slated paper from the primary schools, and shows examples of grammar and high school work, culminating in architectural, machine-model, and object drawing, and the coloring of plants from nature, there are cases containing examples of painting on china and original incised designs for the decoration of frames and metal plates, prepared in the high school and engraved by the high-school graduates; also a number of frames containing water color drawings of plants, with analysis, and conventionalized ornament. It would be difficult to find anywhere a more complete illustration of what can be done by intelligent instruction in the high schools of a city than that which is afforded by the New Bedford exhibit.

"*City of Lawrence.*—The exhibition of drawings from the day and evening schools of Lawrence is excellent in arrangement and quality. At the free evening drawing school, established 'with the design of aiding mechanics and builders by giving them instruction in the particular branch of drawing that will be useful to them in their trades,' the course of elementary instruction laid down for one year is to be supplemented by advanced courses in machine and architectural drawing during a second year. We notice also in the circular that the first year's instruction is given mostly by lectures from the blackboard, including lectures on light and shade, &c. We subjoin the explanation of the Lawrence exhibit given by the supervisor of drawing:

"'*City of Lawrence.*—The exhibition of drawing comprises specimens from the middle, grammar, high, and evening schools.

sheets showing four grades. The eight grammar are represented by eight sheets. High school (first year), model and object drawing, light and shade design; after the first year drawing is made elective. Subjects taken, model drawing in outline, and light and shade drawing from natural objects, color, historical ornament, applied design, building construction, and machine drawing. Evening schools: first year, geometrical projection, screws, nuts, bolts, cams, and other mechanical notions; colors used in representing different materials; second year, gears, shading in ink, shadows, architectural drawing. Sheets Nos. 1, 2, 3, 4, and 5 show a set from the first year's class; Nos. 6, 7, 8, 9, 10, 11, 12, that of the second year's class.

"'E. C. COLBY,
"'*Supervisor of Drawing.*'

"OTHER SCHOOLS.— The remaining cities which have contributed to the exhibition must be noticed somewhat more briefly, though some among them—as, for instance, that of Newton—deserve careful attention. It has again received the mark of 'excellent,' awarded at previous exhibitions for its public school display, and this year has deserved it more than ever for the addition of that case containing examples of work modelled in clay, to which we referred at the beginning of this report. In the Kingston High School exhibition we find proof of correct and careful teaching, as also in that of Fitchburg, where we noticed with satisfaction a case of designs for combs made by grammer school pupils, carried out by manufacturers. The Dedham High School has sent some very good examples of designs for tiles, metal works, and fabrics, made by pupils. Brockton exhibits good architectural, mechanical, and model drawings, and we take pleasure in printing the programme of the freehand and mechanical classes in its free evening drawing school:

"'*Brockton Evening Drawing School, open one night each week for each class; length of term twenty weeks.*— Freehand class: Stage 1, outline from copy (pencil); stage 2, shaded from copy (pencil); stage 3, outline from cast (pencil); stage 4, outline from models (pencil); stage 5, light and shade from copy in crayon; stage 6, light and shade from models in crayon; stage 7, light and shade from casts in crayon; stage 8, special work, designing, sepia drawing, wood carving, &c. Half-hour lessons were given from the blackboard each evening in geometry, perspective, model drawing, and design.

"'Mechanical classes: Stage 1, three sheets of geometry; stage 2, three sheets of orthographic projection; stage 3, two sheets of sections and developments; stage 4, one sheet of isometric drawing; stage 5, machine details and building construction. The above course is given entirely from the blackboard. For advanced work, machine construction and advanced building construction. Average attendance, 75; number of drawings executed, about five hundred; number of teachers, one.

"'WALKER F. BRACKETT,
"*Teacher.*'

"South Boston shows, as in former years, the excellence of the instruction given in mechanical drawing, to which the freehand work is hardly equal. Westboro' State Reform School: The drawings exhibited for this school are simple in design and not elaborate in treatment, but they are healthy in system, and creditable alike to teacher and pupils. The programme given in writing is well conceived, and calculated to benefit a class of pupils who stand especially in need of that careful training of the hand and eye which will enable them to find useful occupation when their terms of service are ended. We could wish that any words of ours might lead to the more efficient support of instruction in drawing in this school and other schools of the same class, such as the Deer Island school, which has at present fallen out of the list of annual contributors to such exhibitions as the present.

"On the whole, we see with satisfaction the practical education given through drawing beginning to affect the products of the workshop in all localities where competent teachers are employed. This realizes the intentions of those who first projected the free evening drawing classes and the preparatory stages for them in the common day schools. Art is being rapidly and practically allied to industry, and through the agencies now in existence. We shall not have to wait in order to see the results of our forethought in the past, for it is even now here before our eyes. On all sides we see evidences of a new and growing public taste, arising from instruction in the schools, which is refining not only the producing power of our people but increasing its value; and the higher standard of taste now becoming general demands better and more skilful productions from those who have to satisfy it. We invite the manufacturers of New England to examine the works of children displayed in this exhibition, to enable them to forecast the probable taste of the rising generation when arrived at maturity.

"For the board of judges.

"C. C. PERKINS, *Chairman.*"

For purely public reasons I commend this suggestion, of a full State exhibition of the works annually produced in the cities and towns, to the favorable consideration of the school authorities and officers of committees who have the control of local schools and classes. It is not an expensive contribution to the promotion of public advancement in this branch of education; and if any city should not receive as much benefit from a common exhibit as it confers upon others by its participation there is as a reward the yet higher satisfaction that the general public is benefited.

Much of the advancement in taste and skill all over the civilized world, observable in the last quarter of a century, is due directly to the influence of the great international exhibitions; and this influence has made itself felt through the education which designers and teachers have received by comparing the masterpieces, of industrial design together, and by studying the systems of instruction displayed by nations whose artistic progress has been there recorded.

The same results have been felt on a more limited scale in our State exhibitions of industrial drawings, and will continue to be felt in a more extended manner if the exhibitions be maintained and developed.

The last official report made by Professor Smith as State art director appears in the Forty-fifth Annual Report of the Board of Education, and contains this brief notice of the exhibition for 1881:

THE STATE EXHIBITION OF DRAWINGS.

It was thought advisable to hold the annual exhibition of drawings during the past year in the Mechanics' Fair, rather than in the usual way at a separate exhibition. Owing to a delay in issuing notices of such an intention, few of the cities usually represented made an appearance. Want of sufficient room in one place prevented the works which were sent from being displayed together, and thus the interest in the collection was, to some extent, decreased by the isolation of its parts. As awards of medals and certificates were offered by the managers of the fair, it was not considered necessary that other awards should be given, and consequently the distribution of marks of "excellent" and "honorable mention" was not made as in previous years by the State board of judges.

The classes represented at the exhibition were from Kingston, Dedham, Brockton, New Bedford, and South Boston, and the large exhibit of the Normal Art School. Awards were made to the displays of the Normal Art School, New Bedford, South Boston, and the Brockton evening school. It is to be regretted that, for the first time in nine years, the city of Boston had no exhibit of the evening school work, either at the fair or elsewhere, during the year.

As the Forty-sixth Annual Report of the Board of Education for 1881–'82 contains no report on the subject of industrial art education in the State, there is no account of annual State exhibitions of the work of the pupils in public schools or in the free evening drawing schools

V.

(4) TEACHERS' INSTITUTES.

Among the appliances of the school system of Massachusetts for the improvement of the schools and of methods of teaching are the occasional public convocations of the public school teachers at the meetings known as teachers' institutes, held annually in different places throughout the State and attended by the secretary of the board of education, the State agents, instructors of the State normal schools, and by other leading educators and lecturers, present on invitation. Arrangements for these meetings are made long previously. The schools of the town in which they are held are dismissed, and all the teachers are expected to attend all the exercises of the institute. The teachers of the schools in all the places easily accessible are also expected to attend. The sessions of the institute continue from two to five days and evenings. Those attending are usually freely entertained by the towns-people, and the occasion leads to an awakening on the part of the citizens to renewed interest in the schools; while, to the teachers, it is a sort of normal school, wherein they have an opportunity through the day sessions to see the best methods of instruction, to listen to the views of the most progressive educators, and in the evenings, through the lectures and addresses of the invited lecturers, to enjoy such intellectual opportunities as are not common in the daily routine of ordinary village or town life. The State appropriates a certain amount of money for the holding of the institutes.

INSTITUTES FIRST HELD BY HORACE MANN.

These institutes were first held in 1845, and furnish an instance of how, in Massachusetts, it has often happened that the public spirited private citizen, by individual action, opens the way to State action, a characteristic before referred to. The founding of the Clarke Institution for the Deaf at Northampton, by the late John Clarke, subsequently made a State Institution, is a comparatively recent case in point, while this very matter of the introduction of industrial art education owes its inception to the far-sighted enterprise of a few public-spirited citizens, whose assiduous perseverance finally availed to secure State action. This particular movement of originating teachers' institutes was thus begun. It having come to the knowledge of Horace Mann, the first secretary of the board of education, that such meetings of teachers had for a year or two been successfully held in the neighboring State of New York, this distinguished educator—to whom, for his countless services to education, the State and this nation owe a never-to-be-forgotten debt of gratitude—urged upon the legislature, in his eighth annual report for 1844, the adoption of a similar plan for the improvement of the teachers of the State. No action seems to have been taken by the legislature, but in his next yearly report Mr. Mann records the fact that a friend, Hon. Edmund Dwight, incited thereto by his statement of the advantages of such meetings, had generously placed at his disposal the sum of $1,000 to be expended in holding teachers' institutes.* Four were accordingly held in 1845. These were held at Pittsfield, Fitchburg, Bridgewater, and Chatham. Thus discreetly placed in far-separated centres, they were known to the legislators coming from many sections of the State. The legislature, apparently satisfied of the merits of the plan by the success of these experiments, in 1846 passed the law authorizing holding them annually.

METHODS VARIED TO MEET NEW NEEDS.

It is not necessary here to trace their subsequent history further than to note that from time to time they have been changed and modified in accordance with new ideas of education, changing circumstances of populations, or the greater or less liberality of legislative appropriations for their use.

When first held the institute was organized as a school, the State authorities being the teachers, and the quondam school teachers taking the place of pupils. Of necessity they still retain much of the essential characteristics of the "normal" or "teachers' training" schools, though latterly omitting many of the mere formal disciplinary features, for with the relative improvement in the qualifications of the teachers, the exercises of the institutes have correspondingly changed.

In the earlier years there were but few institutes held each year, each continuing in session for a week or ten days; latterly they have increased in number and diminished in length, two days being the recent limit. During the first years only five or six were held annually; in 1882 twenty-two were held. With the employment of "agents" of the board, who in fact are travelling superintendents of the schools, the field of usefulnes of the institutes has somewhat changed, the latest policy seems to be to hold them in the smaller towns, where the teachers have otherwise few opportunities for association. The statistics and list of towns given in the secretary's report for 1881–'82† shows that since 1845 three hundred and thirty-five teachers' institutes have been held in one hundred and ninety-two towns.‡ This is of interest as showing how available, as a means for the rapid and general dissemination of ideas, were these assemblies of teachers.

NEW STUDIES AND METHODS POPULARIZED.

These meetings offer excellent opportunities for the dissemination of new ideas and methods, and naturally were at once availed of for the introduction of the new study of drawing. The secretary, in his annual report for 1870–'71, refers to Professor Smith's interesting lectures and teaching exercises in the teachers' institutes, in addition to his special visits to various places.

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* See page 72 of the Forty-second Annual Report of the Massachusetts Board of Education. Report of Hon. John W. Dickinson, secretary of the board.

† See pages 101–104, Forty-sixth Annual Report Massachusetts Board of Education.

‡ In addition to these teachers' institutes there are eleven county teachers' associations entitled to receive State aid since 1848, and a general association of all the teachers in the State, known as "The Massachusetts State Teachers' Association." It will be remembered that it was before the meeting of this State association, held in Boston, October 20, 1871, that Walter Smith delivered one of the most notable of his public addresses. This address subsequently appeared as one of the appendices to the secretary's report in the Thirty-fifth

In the report by the State agent of the seven "institutes" held in 1871 (page 83, of the Thirty-fifth Report Massachusetts Board of Education), it is recorded that four teaching exercises and lectures at the day session, and one evening lecture were given "by Mr. Walter Smith, director of art education."

In the first annual report of the art director, published in the Thirty-sixth Annual Report of the Board of Education, Professor Smith, after having recited his visits to eighteen out of the twenty-three cities and towns required by law to establish free drawing schools for adults, says of his addresses to teachers:

> In my addresses and lessons given to teachers, I have endeavored to inspire them with a confidence in their own abilities to teach drawing, which is not commonly felt, and to point out the simplest way of giving instruction to young children; also to impress upon them the need of varying the character of the lessons as much as possible. I have in the past year confined my lectures to freehand outline drawing of objects and ornament, dictation, and memory drawings, with occasional reference to elementary design.
>
> Besides the cities and towns referred to before, I have attended teachers' institutes for the same purpose in Medway, Pittsfield, Marlborough, Ayer, Sandwich, in 1871, and Barre, Gloucester, Wakefield, Southbridge, Bernardston, and Barnstable last year; and in addition to this, special meetings of teachers, summoned to hear my lectures, have been held at Greenfield, Woburn, Taunton, and Cambridge, and county meetings at Spencer and South Abington.

In the Thirty-seventh Annual Report of the Board of Education, 1872–'73, the institutes are spoken of as follows:

> The board of education also hold a relation to the common schools through teachers' institutes, now held in different parts of the State during portions of the year. Eight of these institutes have been held during the past year. The secretary of the board is intrusted with their management, assisted by the general agent of the board and by such teachers as the secretary may call to their assistance. It is gratifying to learn that these institutes are received everywhere with great favor. They are called by the secretary "traveling normal schools," and at present seem to be the chief means by which improved methods of teaching and of school organization are presented to the people and to the mass of teachers of the Commonwealth.

Eight institutes were held in 1873; at these Mr. Walter Smith, an "agent of the board" of education, gave four day teaching exercises and lectures, and two evening addresses, while Mr. B. W. Putnam, of Boston, a pupil of Professor Smith in the new Normal Art School, just established, gave twenty-nine day exercises and four evening lectures. Apropos to this, the secretary observes:

> As drawing has been added to the list of subjects required to be taught in all the public schools of the Commonwealth, and, as so few teachers are prepared to give instruction in this branch, it was deemed expedient to provide more instruction in it for those attending the institutes than Mr. Smith, the State director of art education, thought he could give, and for this reason the services of Mr. Putnam were engaged for this specific work, and during each institute an hour at least was daily given to it with satisfactory results.

In the art director's third annual report, for 1874, in the Thirty-eighth Annual Report of the Board of Education, is this incidental reference showing that he has attended the institutes:

> In the numerous addresses before teachers' institutes and public meetings, which I have given during the past year, it has seemed to be my duty to discuss the question of the possibility of learning to draw before the audiences rather than to show how the subject could be taught. When teachers have been convinced of their ability to teach, the means of learning are available, and they generally succeed in securing them.

In 1875 eight institutes were held; at these Professor Smith gave five day exercises and lectures and three evening addresses. Mr. Putnam five day and two evening exercises and addresses. The art director, in his fourth annual report, in the Thirty-ninth Report of Board of Education, under "Occasional duties," speaks as follows:

> Though much of my time has been occupied in correspondence and conference with a large number of persons in various parts of the State, and the work connected with the Normal Art School has been unprecedentedly onerous, I have had the opportunity of visiting and lecturing at several places during the past year; thus I have visited Danvers, Wilbraham, Williston, Lowell, Cambridge, Salem, Haydenville, Orleans, and Orange, conferring with or addressing teachers or public meetings, or both, and repeating on a small scale what was my principal duty during the first two years of my service to the State. I have also visited for examination and instruction each of the State normal schools.
>
> But the great work of the past year performed by me has been the care and direction of the State Normal Art School, comprising lecturing to the students, directing individually their studies, holding the examinations, and deciding on the value of the exercises weekly presented to me.

On the one hand the care of the Normal Art School, to which as the most efficient means of giving the needed training to teachers, without which all his efforts must of necessity fail of their merited influence, the art director had given his earnest attention; on the other, changes in the plans of the educational authorities in regard to the institutes, and especially changes in such records of them as appear in the annual reports of the board, make it difficult to trace further just how much attention was given in them to the topic of drawing, or by whom such instruction was given.

In the annual report of the art director for 1879, in the Forty-third Report of the Board of Education, is the following statement; from this it would be inferred that the director had, till then, continued his yearly attendance in the institute:

> It has been a subject of great regret to me that a serious sickness at the time the teachers' institutes were held prevented my attending them in person this year.
>
> For though the responsibility of managing, and all the direction and examination of, the Normal Art School, and much of the teaching, also falls upon me and absorbs very much of my time, I yet feel that at the institutes many localities and persons may be reached directly that it is difficult otherwise to affect.
>
> It has been some consolation to me that a graduate of the art school, who has been working for five years under my immediate direction and personal instruction, should have been able to do the work at the institutes satisfactorily in my temporary absence from them.

In the report proper of the board for this year, 1878–'79, the teachers' institutes are spoken of with approval and seem fully restored to favor. The secretary's report shows that eleven institutes were held, and that Mr. Charles M. Carter, of the Normal Art School, the pupil referred to above by the art director, gave the instruction in drawing.

In 1880 there were held thirteen institutes; at these Prof. Walter Smith and Mr. Briggs, of the Normal Art School, and Mrs. Emma F. Bowler, teacher of drawing in the school of Newton, gave exercises in drawing.

In 1881 there were held twenty-one institutes, the plan now being to hold them in the smaller towns, so as to reach the teachers who were too scattered to hold local associations, as is usual in the larger towns.

In 1882 twenty-two institutes were held. Mr. C. M. Carter, of the Normal Art School, was the instructor in drawing at the institutes during both years.

VI.

(5) THE STATE NORMAL SCHOOLS.*

The establishment of these schools was due to the munificence of the same citizen to whom, as we have seen in the previous pages, was owing the opportunity of holding the first teachers' institutes, Mr. Edmund Dwight, of Boston, who placed the sum of $10,000 at the disposal of Horace Mann, the secretary of the board of education, "to be expended under the direction of the board of education, for qualifying teachers for our common schools, on condition that the legislature would place in the hands of the board an equal sum to be expended for the same purpose."

This communication by Mr. Mann, was dated March 12, 1838.

Hon. Henry Barnard, in his history of normal schools,† from which the above facts are obtained (see pages 53 and 54), gives the credit of the first agitation for such training schools to James G. Carter, of Lancaster, Massachusetts, who, in 1824–'25, by a series of articles in the Boston Patriot, began a discussion which was continued by himself and others, until this decisive offer, made through the secretary, and accepted by the legislature April 19, 1838.

There are now, 1883, five State normal schools in the State, the latest having been established in 1874, one year subsequent to the founding of the Normal Art School.

In undertaking to introduce drawing in all the public schools of the State in accordance with the law of 1870, while, as has been shown, all opportunities for meeting and informing the citizens at large and the teachers, were eagerly improved by the authorities and by the art director, it was not to be supposed that so direct an instrumentality as the special training colleges for teachers — the normal schools — should be overlooked. There was pressing occasion to meet and to instruct the teachers who were actually engaged in teaching, and for this end every possible opportunity was made and improved, and it was a matter of wonder to observe how much was thus accomplished.

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* Massachusetts was the first of the American States to introduce normal schools. The first public normal school in the United States was established in Lexington, July 3, 1839; the second, at Barre, on the 5th of September of the same year. (Page 87 of the secretary's report, Forty-first Annual Report of the Massachusetts Board of Education.)

† Normal Schools and Other Institutions, Agencies, and Means Designed for the Professional Education of Teachers, by Henry Barnard, Superintendent Common Schools, Connecticut. Hartford, 1851. pp. 435.

THE NEW SYSTEM ESSENTIAL FOR NORMAL SCHOOLS.

The instruction to be furnished in the normal schools needed however to be more fundamental and thorough; drawing was already one of the studies taught, but it was not the kind of drawing contemplated by the new law, nor was it taught in such a manner as would serve to prepare the graduates of the normal schools to be of special service in aiding the introduction of the new study.

That the normal schools were, however, relied on as important adjuncts to the new movement, appears from the reports of the secretary of the board, and from those of the art director.

The efforts of the art director were, however, from the first, turned to the formation of art normal classes, or better yet, a normal art school, a training school, to be devoted solely to making art masters.

The history of those efforts and their entire success will be found in the account of the Normal Art School, in a subsequent chapter. It was not until he should be able to place in the normal schools, as art instructors, accomplished graduates from the Normal Art School, that the art director had much confidence in the art training to be acquired in the normal schools. The regular courses of these schools were too exacting to admit of the opportunity of such thorough training in art matters as was needed, nor were there then any instructors competent to give the desired instruction. The art masters had to be created.

SMITH'S SYSTEM OF DRAWING IN THE NORMAL SCHOOLS.

What was done in connection with the normal schools will now be shown by brief extracts from the official reports.

In the thirty-fourth annual report, for 1870, of the secretary of the board, Mr. White, who devotes much of his report to setting forth the claims of the proposed study, and fortifies his positions by quotations from many educational authorities, precedes his own reference to the normal schools by this passage, quoted from a letter written to the board by Henry C. Chamberlain, of Worcester:

> "A well organized system would contemplate a thorough course of instruction in drawing to all the pupils of the normal schools; but as it would require time to bring about any practical results from this course, a more feasible plan would be to require the teachers in all the public schools to learn the art, both of drawing and of giving instruction, from some competent teacher to be provided by the towns, care being had that the elementary instruction should be based on correct principles of art rather than that the teacher should be required to meet a high standard of proficiency in the art."

> "If there should be demand for his services the instructor of the school teachers might also give instruction to such other learners as did not attend the public schools."
>
> This is the plan adopted in Boston, and for several years in successful operation in the departments of music and elocution. It is simply the employment of special teachers, not to give instruction to the pupils in the schools, but to the regular teachers themselves, and to superintend their work. In this mode, at small cost, drawing can gradually be introduced into all the public schools. For while to many towns it would be a serious burden to employ special teachers continuously, there are but few in which such teachers cannot be employed for brief periods to give the necessary instruction to the teachers in the processes of freehand drawing.
>
> Moreover, drawing is taught as a part of the regular course in the normal schools, and it is the purpose of the board that it shall be systematically pursued to such an extent that no pupil be allowed to graduate who shall not be competent to teach whatever is desirable to be taught in the common schools. These graduates are widely scattered, and in whatever town any one of them is found it will not be difficult for the committee to arrange that the other teachers receive instruction and assistance from such. In the teachers' institutes also, instructions in drawing will be given to a greater extent than hitherto, which will in some good measure, it is hoped, supply by useful suggestions and model lessons the lack of more prolonged and thorough training. It may be deemed important, especially if the desire for it is expressed in any community, to organize institutes for the special purpose of teaching drawing, with music and elocution. I can readily conceive that such a meeting might be made exceedingly interesting and profitable.
>
> Lastly, it is proposed, if the legislature grant the means and the right man can be secured, to send a thoroughly instructed agent into every section of the Commonwealth, whose special business it will be to explain this subject in all its relations, more fully than can be done by the written treatise, to give advice and instruction in respect to the best methods of organizing classes and of teaching. Through the aid of these various instrumentalities I am confident that the object of the law can be secured, and "drawing as a branch of learning" be taught in all the public schools of the Commonwealth."

It will be seen that the secretary has a full comprehension of the task set before him and the means at hand for its accomplishment;—how largely the normal schools and the teachers' institutes figured in his estimate! He also sees the need of a living teacher, to meet the teachers and the public face to face; such an agent was later secured in Professor Smith, the State art director and agent of the board. The board, which had employed one general agent to visit the schools all over the State, was so well satisfied of the value of such work that it applied to the legislature for funds to enable it to employ several such agents, and, among them, one whose special duty it should be to promote the introduction of drawing. It was in this capacity that Professor Smith visited the institutes and various committees and schools throughout the State.

In the thirty-fifth annual report (1871-'72), the secretary says, in speaking of the appropriation granted by the legislature for the salaries and expenses of such agents of the board, that the first object in asking for this was, "to enable the board to secure, if practicable, the services of some competent agent to give aid and direction in a more systematic and thorough course of art instruction in the normal schools"; the secretary also recites the other duties which, as we have seen, were performed by Mr. Smith, and later have been cared for by Mr. Carter. After describing at length, with approval, the work of the new art director throughout the State, the secretary recurs to the normal schools, as follows:

In addition to the work already alluded to, the "objective point" of the efforts of the board and of the art director will doubtless be the preparation, as rapidly as possible, of competent teachers, both for the public schools and for special classes. To this end it will be the duty of Mr. Smith, as soon as he can be released from the more immediate calls of the towns while the evening classes are in session, to spend as much effort as possible in the normal schools with the view of giving the utmost efficiency to the instruction in drawing given in them; for on these schools we must mainly rely for efficient aid in its general introduction as a branch of study into the common schools.

Something can be done, as heretofore, in the teachers' institutes. Still more, however, might be expected from special normal classes, to be opened at central points, at such periods of the year as would best accommodate the teachers of the vicinity. A special appropriation to be used by the board in maintaining such classes to a limited extent for the purpose of experiment, at least, would be of signal advantage.

The following sketch of studies proper for the normal schools is from Mr. Smith's address before the Massachusetts Teachers' Association, which appeared as an appendix to the secretary's report:

In the high and normal schools a wider range of study is permissible, because the capacities of the students are more developed. Still it seems to me that there is some danger in attempting too much. In future years it will be desirable that the students in the normal schools should, during their period of training, complete an advanced course of lessons in the five subjects of freehand, model, memory, geometrical, and perspective drawing, and by passing examinations in them receive diplomas or certificates of competency to give instruction, the examinations being conducted and diplomas awarded by the responsible officers of the State governments. This, however, must be a matter of growth.

The model drawing of the high and normal schools should be made a most instructive course, and besides illustrating the use of different materials, as chalk, monochrome, and color, be very comprehensive in subject. Drawing from plaster casts in crayon and sepia; from groups of natural objects, as fruits and flowers; from still life and objects of art, in water colors, will give a wider scope and a greater interest to the object drawing than was possible in the elementary schools.

Drawing ought to be so familiar to the pupils who have previously passed through the primary and grammar schools, that in the high and normal schools it should be used generally in the study of other subjects, and exercises in botany geology, natural history, anatomy, or mechanics be readily illustrated by drawings, and sketches, in the preparation of which instruction would be given to the students in shading and coloring.

In these exercises high finish or pretty ornamental painting are not to be sought after, good drawing, having a round effect, and fairly tinted like nature, being more educational, besides being more economical of time, than finished painting.

In time I hope the neglected subject of art education may become of so much value educationally that we shall use it freely in acquiring knowledge of history, of the social life of other ages and peoples, of the glorious art epochs of the Old World, and the still more glorious natural phenomena which surround us every day in the New World. A refined perception of the beautiful in nature and art, and the enjoyment arising therefrom, will be ample compensation for time spent in art study by those who derive no pecuniary or social advantages from it.

The additional subject of perspective is put down for study in the high and normal schools. It is, of course, of the very highest importance to the proper understanding of all kinds of drawing, and has the same relationship to linear representation that grammar has to language. It would be possible to speak grammatically without a knowledge of grammar, and to draw ac

> knowledge of perspective, but these things are possible only to the few whose enormous experience compensates for their want of education. Perspective, studied systematically, gives the teacher of drawing such a grasp of the whole subject of linear representation that, combined with model and memory drawing, he need never be at a loss for examples, nor fear to reproduce them.
>
> In this subject, which is taught entirely on the blackboard, the teacher requires much power of illustration by sketches and great clearness of verbal explanation to make the problems intelligible to the student. Great experience in teaching the subject has enabled us to reduce its main principles to a plain system, and when we secure the assistance of a good text book it will be found comparatively easy of attainment. Geometrical drawing must necessarily precede the study of perspective, which is dependent on it for the construction of forms used as well as for experience in handling the instruments by which it is worked out.

This scheme of studies is, however, obviously given on the assumption that the preceding elementary training in drawing has been acquired by the pupils in the lower schools; it is introduced at this time rather as an illustration to show his hearers what, in its completeness, the plan of the new industrial art education is to comprise.

In the first annual report of the art director, included in the Thirty-sixth Annual Report of the Board of Education for 1871–'72, in which Professor Smith recites the list of somewhat miscellaneous duties that have devolved upon him, occurs this account of his visits to the normal schools. It will be seen by the final paragraph how important he deems them:

> During the year I have visited the four normal schools for the purposes of conferring with the principals and teachers of drawing, and of giving lectures to the students. Finding that the absence of examples for instruction prevented systematic work in the study of drawing, I recommended the board to appropriate $500 to purchase them, and am glad this has been done, so that as soon as a room has been properly fitted in each of the schools for the reception of the models and copies, and arranged so that instruction, whether elementary or advanced, can be given in them, we may expect a better and a higher class of work than was possible before. The models and examples have arrived and are now being properly arranged in the several schools in suitable class rooms.
>
> I have suggested courses of study for the students, specially designed to fit them for the teaching of drawing, and hope before long that this may be made uniform in all the schools, and be tested by examinations the same as other subjects.
>
> As teachers of great experience become available, I should consider it of the highest consequence to have in each normal school one instructor who devoted himself or herself to the training of the students by a thorough grounding in elementary drawing as well as to give advanced instruction to some who may wish to make a specialty of the subject. In my occasional visits I can only point out the landmarks, but students to whom the road is strange, require direction and accompaniment for every foot of the way. It is in the normal schools that successful grammar and primary schools are made possible, and therefore, what we want to grow in the common school we should plant in the normal.*

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* The importance of the normal schools in aiding any effort to make the introduction of a new study general throughout the country may be realized when their number is known. The statistics of the Bureau of Education show that in 1881 there were in the United States 225 normal schools, 113 public and 112 private, and that these were attended by 48,705 pupils, who were to be themselves teachers. What an opportunity is here presented to shape the training of *their* pupils! The number of [illegible] 65 in 1871 with 10,922 pupils.

The second annual report of the art director in the thirty-sixth annual report of the board, 1872–'73, announces the small beginnings of the new Normal Art School, of which he avers that "when proper provision is made for this most important school, nothing can prevent its becoming as useful to art education in the State as the other normal schools are for general education." Of these schools he says:

> The agency in popularizing drawing, next in importance to the Normal Art School, is the drawing class in each normal school. Here the teachers of the public schools will be prepared for teaching drawing as one of the elementary subjects of general education, and from the character of the instruction given in the normal classes will be moulded the future standard of industrial drawing in the public schools. A high degree of manual dexterity, though valuable in itself, is not the best preparation for successful teaching in the public schools, but rather an intelligent and comprehensive understanding of all the elementary branches of drawing, accompanied by sufficient skill of hand to illustrate principles and correct bad work. The subjects of instruction in the normal schools should include (1) freehand drawing and elementary design; (2) geometrical drawing; practical plane geometry; (3) model drawing, from flat and solid in outline; (4) perspective, linear, by freehand and by instruments; (5) projection, orthographic and isometric; (6) memory and dictation drawing.
>
> Excellence in these primary branches, both of the understanding and of the hand, will be the best preparation for the teaching of drawing in the public schools, up to the grade of the high schools, and therefore I have advised the principals of the normal schools to confine the instruction of their students to the above list until they can pass a reasonable examination in the subjects.
>
> Afterwards the students who take an additional year's training might take up the high school subjects, such as drawing and coloring in light and shade of ornament, natural foliage, the human figure, applied design, in pencil, crayon, and water colors.
>
> I have visited and examined the pupils of the four normal schools during the year. Each school has now an art class room and the nucleus of a collection, both of casts and flat copies. These will be used more and more as the students progress towards the advanced subjects, requiring then very careful and individual instruction.
>
> The work being done in the schools is generally in the right direction, though I do not think enough time is given to the study in them. The anxiety shown by the principals and others to make an advance in the character of the drawing, both in extent and quality, is the best guarantee that nothing will be left undone to obtain the best results in the schools.

The director in his report for 1874, Thirty-eighth Annual Report of the Board of Education, seems greatly pleased with the progress made in the normal schools. His comments follow, omitting the list of studies which are similar to those given in the previous year:

> One of the most gratifying signs of the progress this subject is everywhere making is the great improvement in the study of drawing in the normal schools. The schools were examined in drawing during the past year more thoroughly than ever they had been before, and the results showed that every student who graduated from the schools would be able to teach drawing in some of its phases, and a large majority in all the elementary subjects. It is not necessary to enlarge on the extreme importance of this advancement, for, if continued, it will make industrial art education both possible and permanent in the public schools, where, if it is to be successful elsewhere, it must be commenced. It has been suggested by Mrs. Dickinson, who has charge of the drawing in the Westfield Normal School, that some students, who have a great love for drawing and intend to become teachers of the subject, could be prepared for the Normal Art School examinations, and prepare the diploma works, whilst studying in the normal schools. This, it seems to me, is a very valuable suggestion, for

thus the art school course could be shortened by a year. If a student who wishes to devote half his time to general subjects and half to drawing for two years, could be allowed to do so in either or all of the five State normal schools, it would be a good arrangement so far as art education is concerned. In the diploma work and the examination, the standard would be the same for all the schools, and the first diploma might eventually be as well prepared for in the normal schools as in the Normal Art School. The text books of technical subjects being fixed, they can be studied in one place as well as in another, and the art class rooms of each normal school either are or will be, provided with all necessary examples for freehand work and historical illustrations.

It would appear to be advisable that there should be two examinations in drawing held in the normal schools each year, instead of one, as at present, so that the students who leave the schools in February might have an opportunity of testing their knowledge and skill by an impartial standard common to all the schools. If the State board required that every student graduating from its normal schools must be competent to teach drawing as defined by the statute of 1870, it would be a very short time before all the classes in all the schools of the State would be taught to draw. * * *

With a sound general understanding of these subjects and a fair amount of manual skill in all, the graduating students of the normal school might be considered qualified to teach the elements of industrial drawing in any primary, intermediate or grammar school. Such uniformity of standard and professional test of teachers would be a great convenience to school committees employing teachers, who do not always feel competent to examine and test candidates for teacherships in the subject of drawing.

In the next year, the report of 1874–'75, the director urges the same plan of uniform studies and examinations for all the normal schools, and that to pass the examination in drawing shall be made a prerequisite for graduation. He says:

From the examinations in drawing of the pupils in the normal schools, it is quite manifest that few of them receive instruction in drawing before entering the schools. As this is perhaps the only subject they will be required to teach which they have had little or no practice in before joining the normal schools, it might be advisable to give more time to it than to some others, to compensate for the deficiency. The board of education can hardly hope to see industrial drawing taught in all the schools, unless every graduate of the normal schools is made competent to teach it before graduation, and this competency cannot be acquired in the few hours given to its study for the one or two years of the normal course. And yet it should be recognized that for every student of a normal school who graduates without the ability to teach elementary drawing, there will be a class room in the State where the children are deprived of one branch of elementary instruction which the law says is necessary for their education.

To remedy this and establish uniformity of attainment, there should be an examination for graduation in drawing, as for every other subject required to be taught in the schools. * * *

Great progress has already been made in the systematizing of drawing in all the schools, and only such an additional step remains to be taken to put the subject in its right place, that of a very elementary branch of instruction which every teacher must know before the normal schools consider him qualified to teach in a Massachusetts school.

In the annual report of the art director for 1879, in the Forty-third Annual Report of the Board of Education, which is mostly devoted to the Normal Art School, there are the following incidental references to the normal schools, showing that at length the director has succeeded in having introduced in them a satisfactory course in drawing:

> It might be instanced that the teachers of drawing in the five normal schools at Salem, Bridgewater, Worcester, Framingham, and Westfield, have all been students in the Normal Art School. By their education in it, every pupil in those normal schools has been affected, and every one of those who becomes a teacher will teach drawing as well as he teaches any other subject.

Upon the general topic of the progress of the movement, he says:

> Though this could not be suddenly accomplished by the issue of any fiat or passing of any law, irrespective of ancient prejudices or the qualification of teachers to teach the subject, still it is gradually making its way into every school.
>
> As before noted, every normal scholar for many years past has become qualified to a considerable extent to teach the elements of drawing to children; and all by their practice in teaching will be certain to improve. The instruction given in drawing in the normal schools has been, as a rule, excellent, and, in most of the schools, covering a sufficient area of subjects; but it should be remembered that the branches upon which the examinations have been founded, viz, freehand drawing and design, object drawing, memory drawing, and the instrumental drawing of plane geometrical problems and perspective, are all helpful to each other; and, without a fair proficiency in them all none can be quite successfully practiced. It must be a matter of growth before all this is understood and accomplished, and may not be hurried. When the children now taught to draw in the schools shall become the teachers they will be so familiarized with the subject in all its elementary branches as to see their intimate relationship and helpfulness the one to the other.

The art director's report for 1879–'80, included in the forty-fourth annual report of the board, is devoted to the Normal Art School, and to a discussion of the vexed question of the proper use of special instructors. Full extracts, with schedules of the course in the three grades of the public schools, appear in the preceding pages of this report.

Incidentally he says of the special instructors in the normal schools:

> All the teachers of drawing in the five normal schools of Massachusetts for many years past and at present have been students of the art school; and thus a large proportion of the present regular teachers, graduates in recent years of the normal schools, have been by them prepared to teach the subject of elementary drawing, and all will be so in the future.

The last words of the art director concerning the normal schools in his final Report on Industrial Art Education, that for 1881, included in the Forty-fifth Annual Report of the State Board of Education, are very satisfactory. After ten years of assiduous effort he sees his carefully matured plan in successful operation in all the grades of public schools, from the lowest elementary school to the training college for public school teachers.

The following are his remarks upon the topic of normal schools:

> The grading of the subject of drawing, adapting its several features and subjects to the capacities of pupils in different grades of the public day schools has been a work of time, and could not proceed more rapidly than the creation or development of agencies by which it could be carried out. This has been now so far accomplished that a systematic arrangement of work in all grades has become possible, and was fully detailed in my report of last year; the "plan and graded programme" of the day school portion having been a part of the report for 1879.

The character of the drawing which should be taught in normal schools has, by this progress, assumed a more distinct form. For a long time the students in them came without any, or with little skill in drawing, and consequently had to be taught to draw. In recent years the teaching of drawing in public schools to children has prepared the normal students, not only for higher instruction and advanced practice, but for the study of how to teach the elements of drawing. This is an important advancement in normal work, bringing the subject up to the plane of other studies, and enabling the special teachers of drawing in the schools to prepare their pupils for successful practice in teaching in the class room, whilst in previous years they had enough to do in teaching them to draw.

Making use of this progress, after my usual visits to the schools, and observation of the work, I have been enabled during the past year, through the coöperation of the principals and special teachers, to arrange and introduce a uniform course of practice in drawing and teaching drawing in all the schools, and to bring it into operation in September, 1881. It is arranged progressively for three years of study, and is of three grades, called the first, second, and third grades, corresponding to the primary, grammar, and high school grades of day schools, and embracing in its practice the subjects which should be taught in those schools.

The means of instruction are the blackboard and the object only, and no printed text books are to be used in either grade by the pupils. This throws much additional work upon those who teach drawing in the normal schools; for the method of teaching is by class instruction only, and it has been admirably well done so far. No better evidence could be given of the general progress made in this whole subject than the ready and excellent manner in which both the teachers and the students have taken up the study on a broader basis than before existed. I have examined the work done upon this plan in all the schools, and am thoroughly satisfied with it. From my observations also I judge that both the principals and teachers of drawing in the schools are well pleased with this new departure.

Such a development as this was not possible before, from many causes, the principal of which was the want of preparation for such work on the part of the students, before referred to. But that which assists in making it possible now, and immediately successful also, is that the special teachers of drawing in the normal schools are exceptionally admirable teachers, with experience in education and skill in teaching drawing such as could hardly be equalled outside of the schools. This is a gratifying result, and gives the most hopeful and promising indication of future progress in industrial art which the State at present has to show; for by this development the education in the elements of taste and skill of every child will be provided for in the future through the previous instruction of every teacher whilst in the normal schools.

The conferences of all the teachers of drawing from the normal schools, which have been held on my invitation at the art school in Boston during the past year, have been very profitable and encouraging, tending to uniformity of action and mutual help which predicts further advancement.

Having thus collected the records of the other various instrumentalities made use of by the State educational authorities to promote the introduction of drawing throughout the schools of the State, we come now to that one which is justly regarded as the most important of all, and in lack of which the others were mere temporary makeshifts, the Normal Art School, which, in its design and execution, furnishes a most valuable precedent and model for other States and communities desiring to aid in the advancement of the new industrial and artistice era now opening.

VII.

(6) THE MASSACHUSETTS STATE NORMAL ART SCHOOL.

It was soon found that the passage of the law placing the study of industrial drawing on the list of regular studies taught in the public schools of the State, although supplemented, as it had been, by the appointment of Walter Smith as State and city director of art education, was not sufficient to effect the desired result. No one man, however brilliant, could hope to introduce, single-handed, a new study, heretofore regarded as a specialty, into all the common schools of a State; nor were there in the Commonwealth a sufficient number of persons skilled in drawing to serve as special teachers in the various cities and towns, if such a course had been practicable. From the first it had been clearly comprehended by Professor Smith and the gentlemen who had been active in initiating the new movement, that unless the new study could be taught by the regular teachers, just as the other studies were taught, any attempt to make its adoption general must be given up. How was this to be accomplished? Professor Smith was actively at work in promulgating knowledge of the new study in Boston and through the State, but the prime necessity was apparent. The expedient adopted was one suggested by the plan long established by which the State trains teachers for the public schools, and is an admirable illustration of the facilities afforded by the American system of common school education for the rapid and general dissemination of educational training throughout large communities.

HISTORICAL ADDRESSES.

The writer was so fortunate as to be present at the first "commencement" of the Normal Art School, held June 23, 1876, in the new quarters, No. 23 School street, and to hear, from his own lips, the following statement by the accomplished educator to whom, more than to any other one man, the State and the country is indebted for the successful initiation of this movement for general elementary industrial art education.

As this is an authoritative statement of the inception and founding of this school, it belongs to its history, and should precede any account of its operations. The report here given is from that of The New England Journal of Education:

THE CHAIRMAN OF THE STATE BOARD OF VISITORS INTRODUCES DR. PHILBRICK.

Dr. Miner remarked that there was present a gentleman who for many years had been superintendent of public instruction in the city of Boston, and who was now occupying that position. This gentleman had formerly been a member of the State board of education, and in that capacity he had been active in founding this school, and at its inauguration was chairman of the board of visitors; that through his influence in the two official positions, the State and city were united in securing the services of Prof. Walter Smith, and that this union had resulted most happily in giving a uniformity to the art work of the Commonwealth. He then introduced the Hon. John D. Philbrick, who was chairman of the committee of the board of education, under whose supervision the institution was organized and put into operation, who gave a brief sketch of the pioneer work in combating prejudice and overcoming opposition, which resulted in its establishment.

MR. PHILBRICK'S ADDRESS.

The speaker (Mr. Philbrick) said that the first important step in this work consisted in securing the services of Walter Smith. The movement which resulted in bringing him from Leeds to Boston was made by Mr. Philbrick in his efforts to improve the instruction in drawing in the Boston public schools. He called in Mr. C. C. Perkins as an expert in art education, to give his opinion on the condition and wants of drawing in the schools. His views on the subject were embodied in a letter to the chairman of the committee on drawing, advising the employment of a thoroughly well educated master, such as might be found among the graduates of the South Kensington Art School, to instruct the teachers and take the direction of this branch of instruction. The school board adopted the suggestion to appropriate $2,800 for the salary. Sir Henry Cole, the director of the Kensington school, recommended Walter Smith, art master at Leeds, as the most promising man in England to undertake the work of developing industrial art education in America. But the difficulty was to induce a master of his standing to exile himself from his country for this purpose, as the salary proposed was less than half what he was earning at home. By correspondence, continued nearly a year, he was at length persuaded to come over and look over the ground. Soon after his arrival it became evident that if his engagement depended on the Boston school board alone the project must fail.

But there was one other resource left. The State board of education had already entered actively upon the work of promoting industrial art education. Could not the State join hands with Boston in securing a competent man to organize and direct this work? This project was immediately submitted to the State board by Mr. Philbrick, who was a member of it, and it was carried. This action settled the question of Mr. Smith's coming to Massachusetts. He began his work in October, 1871. The necessity of providing means for educating art teachers very soon presented itself. This necessity the board of education was not slow in perceiving, but it was not yet prepared to assume the responsibility of recommending to the legislature the establishment of an institution for this purpose.

In the spring of 1872, Mr. Philbrick, on his individual responsibility, went before the legislative committee on education with a bill prepared by him, asking for the establishment of a State normal art school. State Director Smith and Mr. Perkins and Secretary White joined him in urging the committee to report it to the legislature. But public opinion was not prepared for it. Another year of agitation was necessary. Then the board of education unanimously recommended the project, and three years ago this month the legislature, under the lead of Hon. William S. Phillips, granted to the board of education, for the purpose of training art teachers, the sum of $7,500, at the same time setting apart for the use of the proposed school a portion of a building in Pemberton Square, Boston.

The third annual course of instruction ends with this interesting occasion. Already the State is proud of this educational institution, the first of the kind in America. Specimens of its work are submitted to the inspection of the country and the world at the Philadelphia Exhibition. It has a great future before it. It is destined to work wonders in advancing the industrial interests of the State. Before another year shall have passed, it is hoped that it will be installed in a noble and appropriate edifice, on the State land at the corner of Boylston and Dartmouth streets.*

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*This land was afterwards appropriated by the State to the uses of the Technological Institute, a great disappointment to the friends of the Normal Art School, as the proximity of this site to the Museum of Fine Arts made it particularly desirable.

It will be observed that Dr. Philbrick also gave, in brief, an account of how it was that Professor Smith was asked to leave England for America, and by what high English authority he was indorsed.

The State board of education appointed a board of visitors to be in charge of the Normal Art School, which was given by them a head, in the person of the State art director, Walter Smith, and a local habitation, in some rooms rented in the private house, No. 33 Pemberton Square.

The school was opened November 6, 1873. Cramped for room and insufficiently equipped, it yet achieved success from the outset, and the applications for admission were far more numerous than could be received.

The school opened with an admirable corps of teachers, numbering three professors and five instructors. The professors were Professor Smith, the State art director, director of the school and professor of the theory and practice of art education and of sculpture; Professor Ware, professor of architecture in the Massachusetts Institute of Technology, lecturer on architecture and building construction; Professor C. D. Bray, of Tufts College, lecturer on machine drawing and orthographic projection.

Among the instructors were Mr. G. H. Bartlett, of the London School of Design, and Miss Mary Carter, art mistress, South Kensington, England, who taught freehand drawing, painting, and designing.

The number of students the first year were 133—gentlemen, 47; ladies, 86.

The following general statements were a part of the circular of the Normal Art School, issued for the second year, 1874–'75, by the board of visitors, who were the following four members of the State board of education: Rev. A. A. Miner, D. D., Rev. Phillips Brooks, Hon. Henry Chapin, Hon. Joseph White:

In view of the great importance of drawing as a branch of education, the legislature, by an act passed May 16, 1870, made instruction in this branch obligatory in the public schools, and required cities and towns containing more than ten thousand inhabitants to make provision for free instruction in industrial drawing to persons over fifteen years of age. This act met with much public favor; but it was soon found by experience that it was impossible to realize satisfactorily the benefits intended by the act, for want of competent teachers. To supply this want an act was passed by the legislature, providing for the establishment and management, by the board of education, of a State normal art school. In pursuance of this provision, at a meeting of the board, the undersigned, having been appointed visitors of the school, with instructions to organize and put it in operation and take charge of its immediate supervision, issue this circular for the information of those interested.

DESIGN OF THE SCHOOL.

This school is intended as a training school for the purpose of qualifying teachers and masters of industrial drawing. Its specific aim at present is to prepare teachers for the industrial drawing schools of the State, who shall also be able to direct and superintend the instruction in this branch in the public schools. In the future it may be necessary to provide for high skill in technical drawing and high art culture, but the immediate pressing demand is for teachers who know the elementary subjects thoroughly well, and can teach them intelligently and successfully; and this demand the school will aim primarily to supply, as far as its limited means will allow, by providing at the outset training in the elementary subjects only, but making it as complete and practical as the circumstances will permit.

LOCATION.

Accommodations for the school have been provided in the upper stories of the building numbered 33 in Pemberton Square, Boston.

CONDITIONS OF ADMISSION.

An examination in freehand drawing will be held at the opening of the school, of all candidates for admission, and those only who show an aptitude and some proficiency in elementary drawing will be admitted. The number of students will be necessarily limited, preference being given to the teachers of drawing actually employed in the public schools and in the industrial evening classes in the State, the complement being made up of the most promising of the candidates resident in the State, who declare their intention to become teachers of drawing; or, in case of deficiency in the number of these classes of students, other persons, whether residents or non-residents, will be admitted, on the payment of a reasonable tuition.

COURSE OF INSTRUCTION.

The term industrial drawing includes both instrumental and freehand drawing. The former will be taught by lectures given by the professors of the various subjects; and the latter by individual instruction given by the instructors, who will also superintend the artistic work in the studio, comprising freehand drawing, painting, and designing. Lectures will be given on architecture and building construction, machine drawing, orthographic projection, isometric projection of shades and shadows, geometric drawing, and perspective.

The list of instructors remained as before, with the addition of Professor S. Edward Warren,* of the Massachusetts Institute of Technology, lecturer on isometric projection and projection of shadows.

REMOVAL TO SCHOOL STREET.

The school soon outgrew the narrow quarters in Pemberton Square and was transferred, in 1875, to two of the upper stories of the building No. 28 School street, which, though not fully adapted to its needs, to meet which the sole occupation of a building designed or fitted for its special purpose was most desirable, was a great improvement over the two cramped rooms of the house in Pemberton Square, in which, however, nearly 200 enthusiastic pupils had managed in some way to get themselves taught and to imbibe a good share of the spirit of their teachers. To the inspiration of these teachers is to be credited the enthusiasm of the pupils, and to the spirit that went out from the

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* Professor Warren, who was for many years professor in the Rensselaer Polytechnic Institute, Troy, N. Y., is the author of a graded series of elementary and higher text books on the theory and practice of instrumental drawing, comprising a full course in graphic science adapted to preparatory schools, college scientific courses, and professional scientific schools, published by John Wiley & Son, New York. He has also published various addresses on the subject of industrial education.

Normal Art School and to the training there acquired, is to be attributed, in a large degree, the marked success that attended the experiment of introducing industrial drawing into the schools of the State.

Tuition was free to citizens of the State; a fee of $100 per year was charged to students from out the State. In 1874 the gold medal of the Charitable Mechanics' Association, and in 1875 the silver medal of the New England Agricultural Association, were awarded to the school for the exhibition of work done by the pupils in their regular course of study.

FULL COURSES OF STUDY ARRANGED.

In 1875 a full programme of a course of instruction, extending through four years, had been arranged and was put in operation. For the first three years a certificate was to be given by the State authorities at the end of each year to pupils who had successfully accomplished the work of that year, and, at the end of the fourth year, a full diploma attesting their qualifications to act as art masters and art mistresses.

It was on the occasion of the first annual conferring of these certificates by the State authorities, that the remarks of Superintendent Philbrick, already quoted, were made.

THE GOVERNOR OF THE STATE AWARDS THE CERTIFICATES.

On this occasion, which took place June 23, 1876, Hon. Alexander H. Rice, then governor of the State, was in attendance at the school, in the large hall of which the meeting was held, for the purpose of conferring the diplomas.

By this official action the school was thus given similar recognition to that accorded to the State University at Cambridge and other State educational institutions.

It was the formal recognition, by the official action of the highest dignitary of the State, of the dignity and value of the institution thus honored and of the system of public education therein inaugurated.

In this act the governor of Massachusetts but followed the English precedents, since the Queen, in the person of some of the royal family, and the Government, in the person of the prime minister, are accustomed thus to pay honor to the Government art schools; the Prince of Wales, the Duke of Edinburgh, Lords Derby and Beaconsfield, Mr. Gladstone, and Mr. Forster, having each on similar occasions made noteworthy addresses, in which there is ample proof of their appreciation of the importance of the relation borne by these schools to the material interests of the people.

Besides the governor of the State, the secretary and other members of the State board of education were present, as well as the members of the special board of visitors. In addition to these officials, many distinguished citizens were in attendance, forming a brilliant audience.

The assembly was presided over by Rev. A. A. Miner, D. D., chairman of the board of visitors, whose remarks are of interest, and are here quoted in full, as giving a condensed history of the school, and as showing the nature of the difficulties that had been encountered both in obtaining authority to establish it, and in its early beginnings. His words also indicate—unconsciously, since he seemed to consider all obstacles and hindrances as ended—some of the causes of future difficulties to be encountered; words which, in view of events subsequent to 1881, read almost prophetically:

DR. MINER'S ADDRESS.

By the act of 1870, "any city or town may, and every city and town having more than ten thousand inhabitants shall, annually, make provision for giving free instruction in industrial or mechanical drawing to persons over fifteen years of age," &c. As the means of carrying out this provision did not seem satisfactory, arrangements were made in 1871 for bringing out from England a man competent to give direction to this important department. Mr. Walter Smith was recommended and secured for this work. Experience soon proved that a school to teach the teachers was requisite, and the Industrial Normal Art School was opened in the autumn of 1873, and has now completed three years of its history. After the first year's work, class A, it is understood the remaining work can be pursued in any order deemed desirable. Accordingly some have chosen from the classes B, C, and D the past year, so that the exhibit at Philadelphia has something from every class, and gives a tolerable view of the entire line of the school.

The patronage of the school has increased steadily from the beginning. It numbered 133 pupils the first year, 239 the second, and 307 the third, making a total of 679. It has been feared that the school would rear too many art teachers. When we remember the varied resources requisite for a good art teacher, there appears no reason why, among the qualifications of the general teacher, the knowledge of the various principles of art, and the necessary coördination of thought, eye, and hand successfully to apply them, may not be required, and thus the whole field of instruction be laid open. But when better tastes shall have been begotten, the various industries will claim the labors of the most successful in the fields of original design. Even were it otherwise, culture in art, and in the various sciences subordinate thereto, like every other department of culture, is valuable for its own sake, for the relation which every faculty bears to every other faculty, and for the nurture of those agreeable emotions into which all culture strikes its root.

The Normal Art School has had difficulties to meet and obstacles to overcome. It was new among us, and new things must prove their right to be, especially if their existence is a public tax. Then the art school is based on principles that can be stated, and consequently can be taught and learned, thus transcending the empiricism of the past and destroying some people's occupation. The success of the school and the diffusion of its good required text books embodying its principles and methods, thus arraying against it long established interests. Still further, every institution vigorously administered—and I believe the vigor of the administration of this school has not been questioned—runs across somebody's path, and produces more or less of antagonism through interest, envy, or personal conflicts and prejudices.

During the year now closing all opposition likely to arise has culminated. It became necessary to seek from the legislature unusual appropriations. Every possible obstacle was thrown in the way, and was met and overcome. The more its claims were discussed the stronger grew its position in public favor, until the needed grants were made, and the school triumphed by very decisive majorities. The school may now be said to be established. The board of education believe in it. They repose entire confidence in its management and in the ability of its various teachers. Such changes will be made from time to time as its good may require. Class C will be transferred next year to the building in School street. The school will then be together. Its session will be held five days in the week, and two more teachers will be employed in class A, giving greater facilities to the department of freehand drawing.

We hope the next legislature may consecrate to the uses of the school a most desirable lot, some time since designated, near the Art Museum, and thus open the way for such a building for the uses of the school as its highest good demands.

In closing, he said he was happy to introduce to the pupils his excellency Governor Rice, who would address the pupils and award the certificates.

ADDRESS OF GOVERNOR RICE.

The governor, expressing regret that he had not had previous information that such an address was expected from him, so that he could have made careful preparation, said:

This is the first "commencement," if we please so to call it, of the first normal art school in America, and it would be extremely desirable that our discourse about it should correspond in grace and eloquence with the forms and conceptions of beauty which have been the objects and subjects of your study. I think we shall easily see that we have attained to a state of social progress where art of some kind enters into almost everything that concerns us in life, and that a somewhat correct knowledge of its principles and of their proper application is no longer the privilege and luxury of the few, but the necessity of the multitude. I said "art of some kind"; perhaps if I were to speak more accurately I should say that art is itself a unit, with different forms of application. It rests, no doubt, upon the esthetic idea, and ramifies into the domain of beauty or of utility according as the faculty of imagination or of constructiveness enters into its development. When the former of these faculties predominates the result will be the production of what we are accustomed to term the fine arts; and when the latter faculty predominates the product will fall under what we denominate as the useful or the mechanic arts. Of course there is sometimes a mixture of other faculties with these, and often a blending of these together, and hence we have every grade of art, from the absolutely ideal to the absolutely utilitarian. Both of these forms of art are held, and always have been, as the most accurate exponents and standards of the degree of civilization which has characterized any age or country. Nay, I think we may go further, and say they are typical, not only of the degree, but of the kind and value of that civilization. * * *

We shall therefore see that the objects of beauty and convenience do not come by chance, but by culture and experience; by cultivating the sentiment of beauty and by learning the principles by which it may be correctly applied to objects of taste and utility. The rudest state of society shows us nothing but the stone hammer and the wooden arrow, the cave and the wigwam; and from these the races have risen just as the arts have progressed.

Our own times and country especially call for increased attention to the culture of the industrial arts. * * *

Hitherto we have got on very well with the skill which came from common practice and the routine of "learning the trade." Our wealthy people have been comparatively few, the wants of the masses limited, and the popular taste comparatively uninstructed. All these demanded only the moderate share of skill which we possessed, and in the simplicity of the arts and the slowness of production our local markets absorbed all that we could make; but the world has been all the while advancing, and we have passed from the sphere of experiment into the sphere of scientific discovery, and this change has produced silently a social revolution which has involved us with the rest of the world.

Wherever science has carried her torch, art has followed with her hammers; and both the methods of production and the markets of the world have changed. Our competitors are mankind, and our markets are the world. We must be prepared to meet this world wide competition, or we must fall behind in the race. It would be as absurd to expect that we could, without our schools and colleges, have a literature which would be creditable to the age and country as to think that we can any longer attain distinction in the products of our industry without a knowledge of the principles and forces which give them value and attractiveness; and as the end to be thus achieved is to be accomplished among our laboring population, we must seek to infuse the knowledge of these principles, as far as possible, into that system of public instruction which the State furnishes to all classes of its people. Teachers must be educated for this as for other purposes; nay, even more necessarily, in so far as the plane of this study is above that which the common text books contain.

This is, though imperfectly stated, the economic view of the case. * * *

After an eloquent tribute to the power of art in adorning life and moulding character, he concluded thus:

The arts, therefore, in all their appliances, are the greatest educators; they touch the finest qualities of our being and lift us into the atmosphere of beauty and refinement. * * *

These present fruits of your own studies and efforts afford the most gratifying evidence of the success of this institution and of the facility with which progress may be made under competent instruction. The State authorities and the public cannot be otherwise than most favorably affected by this exhibition, and it will present additional inducements to enlarge your accommodations and increase the facilities for instruction.

I cordially and gratefully acknowledge, on behalf of the Commonwealth, the obligation of its people for the skill and labors of your accomplished principal, as well as the public gratification at these first fruits of your endeavors. In token of this appreciation, I take great pleasure in bestowing upon you these diplomas and certificates of your diligence and attainments.

The certificates were then distributed by the governor to 64 students of the classes of 1874 and 1875, 36 of whom were women. Twenty-eight certificates were also awarded to the class of 1876, to be distributed on some future occasion. The ratio of women students to men was greater in this than in the two previous classes; 22 of the 28 certificates given to this class being awarded to the women students.

After this ceremony ended Dr. Philbrick spoke, as before stated. Dr. Miner then called on Mr. B. W. Putman, one of the students, to reply on behalf of the students to the governor's address. Mr. Putman made a brief address in excellent taste. In conclusion he said:

Gentlemen of the board, we are not unmindful of the fact that now and here on this Centennial year, for the first time in the history of the nation has such a scene as this been witnessed. Seventeen hundred and seventy-six brought the stern conflict that ushered in the nation's birth. The rolling years have been passed in enlarging our borders, in multiplying and strengthening our resources, till now the demand of the new century, as his excellency, has said, is for recruits in that army that is being raised to do service in that "peaceful battle of form," and skill, and taste, a battle that is to be fought with ignorance, crudity, and even barbarity, a contest that must be waged and that speedily, if we would take and maintain an honorable rank in the sisterhood of the nations. You have now conferred upon us the official commission of the State, testifying to our fitness to do service in this cause. In accepting these, the first ever granted this side the Atlantic, we are ready to pledge ourselves to go forth to the contest wherever and whenever duty calls us to the field.

Gentlemen of the board, we should fail to express our convictions did we let this occasion pass without bearing testimony to the justice and impartiality which has characterized the director of this school and his associates in the awards of these honors. If in the performance of the duties you have laid upon him it has been necessary for him to humble our false pride or wound our inordinate self conceit, it has been done kindly and for our good. If it has been his duty to censure indolence or leave incompetency "out in the cold," it has been done in no self-glorying spirit, with no unnecessary publicity. It has been his mission to devise the most comprehensive system of art instruction the world has ever seen, in ancient or modern days, and in our efforts to fit ourselves to teach this subject it has been his strong arm that has guided, his wisdom that has enlightened, his enthusiasm that has inspired us, and with what success the Centennial exhibit will testify. And, now, with gratitude in our hearts for his favors and yours, we are ready to go forth to plant in this State, and here and there all over the land, the seeds of art instruction we have gathered. May we not reasonably hope to plant that seed which will in its full fruition bring forth a harvest of truth, of symmetry, of harmony, and beauty, that will yet place our people beside those "Greece nurtured in her glorious prime."

We have been told something of the history of this school by one who was himself one of the chief actors in making that history; and may we not believe that the historian of the next century, some Motley, or Prescott, or Bancroft, as his eye sweeps down the long vista of a hundred years, searching for the cause of the glory of the Republic, will speak of this day and this hour as the beginning of better things, and do that justice to these, our benefactors, which their achievements demand, but which our powers are inadequate to express?

Mr. John S. Clark, partner of Osgood & Co., and later of L. Prang & Co., publishers of the text books and other works of Walter Smith, and who had personally taken an active part in promoting the cause of industrial education, being present, was called on by Dr. Miner and made a few brief remarks, as did also Col. I. Edwards Clarke, who, being accidentally present, by invitation of Mr. C. C. Perkins, was unexpectedly similarly called on, as representing the United States Bureau of Education.

The exercises ended with a brief speech by Prof. Walter Smith, the director of the school, in which were succinctly stated some of the arguments quoted from him at length elsewhere in this report. Among other things he said:

It was a great achievement to see so successful a beginning in the industrial crusade as this which had been made to-day, the recognition that success in art was the result of systematic training and steady application to study. * * *

Other countries have delivered themselves from a low state of taste and a barbarous condition of manufactures by the means employed here in this school; and by the verdict of the most patriotic of Americans, America to-day stands at the bottom of the column in art, manufacture, and industrial taste. * * *

If the same results follow the establishment of a normal art school in America as have followed the same agency in England, in twenty-five years the United States will display at a future international exhibition, like that at Philadelphia, manufactures which are hardly equalled and not surpassed by the most artistic of foreign countries, and then the country will allow that this Normal Art School of Massachusetts has been, indeed, "a little leaven, leavening the whole lump."

We have every reason to hope this may be so; and this much is certain, that by no other agency has the same result been accomplished, whilst the conditions of success are as favorable here as elsewhere. The students of this school must regard themselves as pioneers, who are attempting to do by human agencies what used to be considered the peculiar prerogative of divinely endowed persons. To study the basis of art and by long practice learn the rationale of drawing and painting, as you would do in other fields if your choice of professions had led you to law, medicine, divinity, or science, seems to many unnecessary, for they contend the artist, like the poet, is born, not made. If we regard the works of some of these rule-of-thumb inspired artists, it would seem as though nature had employed a journeyman to do her work when such were born. I look forward to the time when the art work produced by students of this school shall show the world what intelligent educated artists can do, and challenge a comparison with it of the work of so-called inspired and born artists. It has been the fashion of late years, in this country, to worship everything French in fine and industrial art, and to run down everything English. I invite a comparison of the fine and industrial art of the two countries as exhibited at Philadelphia, and am willing to abide by the result of a just comparison; and I say that the distinguished success of the Anglo-Saxon race in that exhibition results from a belief in the value of art education and training, rather than in trusting to vague and sentimental notions of natural endowments.

We have much to do in this great industrial battle. Already we have encountered opposition from the dreamers and sentimentalists, who find it easier to call names than to do any great educational work themselves. But if you have caught my spirit, you have put your hand to the plough, and intend neither to look sideway nor backward until the straightest and best furrow you can make has been accomplished. When the man who is hallooing at you from the next field can find time to make his furrow then we can compare results, and not till then. It has been solacing and delightful to me this day to hear as thoughtful and practical a business man as his excellency Governor Rice say to you that this school and its influence are a necessity for Massachusetts. I would go farther and say that this school, and such schools elsewhere, are the only possible means of restoring the prosperity of the whole country. We are no longer isolated from the rest of the world, but have to be weighed in the balances with every manufacturing country of Europe. Education alone will aid us in this comparison, and trained art teachers spread all over the United States are as great a necessity as is this Normal Art School in Massachusetts. Your ambition and your patriotism, therefore, may be equally indulged in the prosecution of your studies, and in it I heartily wish you the highest success.

There were in 1876 12 instructors besides Mr. W. T. Meek, the curator, himself a competent teacher and thoroughly familiar with Professor Smith's system.

Professors Warren and Bray were not this year attached to the school.

All the 679 pupils who attended the school during the first three years were from fifty-eight cities and towns in the State, with the exception of 12 who came from seven other States.

THE SCHOOL AT THE CENTENNIAL.

The work of the school was admirably represented at the Centennial in Philadelphia, where, under the supervision of the State educational authorities was a full exhibition of drawings done in the public schools of the State. These works shown at Philadelphia had been chosen from the larger exhibition of such works held in Boston in March, to which all the schools in the State contributed, or were free to contribute.

Although the Normal Art School had been established but three years, work of the whole course of four years was shown at Philadelphia, since the course after the first year is elective, and several of the pupils had taken the fourth year's work.* The exhibition made of the Normal Art School work attracted much attention and was of special interest, as it covered the whole course of the work proposed for the public schools, since the normal pupils were taught those things they would themselves be called on to teach in the public schools.

The result of this showing at the Centennial was to disseminate throughout the country a knowledge of the subject, and to show how thorough and effective was the training given in the Normal Art School.

A natural sequence was that many of the graduates of the school at that time were eagerly sought by cities and towns of other States, and through their instrumentality the system of industrial drawing was introduced in the public schools of many widely separated communities, whose school authorities adopted the study without delaying for State action compelling its introduction. In this way the impulse given to the new study by the Massachusetts Normal Art School was widely extended.

In the year ending June, 1877, there was an attendance of 218 pupils, 147 of whom were women. The great numerical preponderence of women teachers in the State is naturally shown in the attendance in the State normal schools, the training schools for the teachers of the State.

The pupils of the school were permitted free access to the collections of the Museum of Fine Arts which supplemented those of the school, which last were only such as were adapted for use in drawing. There were about one hundred plaster casts, mostly of architectural ornaments, leaves, flowers, parts of the body, a few busts, and a large number of engravings, patterns, and models.

Mr. Henry Durant at this time showed his practical interest in the school by sending each week, from the conservatories of Wellesley College, a box of the choicest flowers and foliage, for the use of the free-hand drawing and the flower painting classes, which thoughtful kindness was gratefully acknowledged by the board of visitors in their annual report.

There was an attendance of 265 during the year 1877–'78; men, 84; women, 181. During the year 1878–'79, a total of 181; men, 38; women, 143. During the year 1879–'80, a total of 245; men, 66; women, 179.

REMOVAL TO WASHINGTON STREET.

The dissatisfaction that had been for a long time felt with the School street building resulted in securing for the use of the school the property in the west end of the city, No. 1679 Washington street, known as the "Deacon House," the former residence of the well-known family whose name it bears. The large house, placed in the midst of ample grounds, is a stately well proportioned building of some architectural pretensions; while within, the lofty ceilings and grand halls admirably adapt themselves to the uses of an art school.

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*In Mr. Stetson's report upon drawing as shown at the Centennial, given in Appendix E to this volume, will be found an admirable statement both of the character of this exhibition of the drawings made by the pupils of the Normal Art School, and of the purpose and methods of the school.

Removed from the business centre of the city and secluded within its own grounds, it was far more suitable for the use of a school largely attended by ladies than the crowded quarters before occupied.

The session of 1880–'81 was opened in the new building. The larger rooms and better light were fully appreciated by both instructors and pupils. The school seemed about entering upon a new era of successful development. As there had been the experience of several years to guide the director in perfecting the course of studies required of the several classes, the programme of studies of the year 1881, which Professor Smith appends to his pamphlet prepared for the Pennsylvania Museum and School of Industrial Art,* is here given, as it may fairly be taken as a model for similar schools. The proposed grading of studies for that school, prepared by Professor Smith, will be given in connection with the account of that institution, or inserted by itself in the appendix to this report.

The plan here given is that of the work given to the students in the Normal Art School after an experience of several years had shown the needs and the abilities of the pupils.

PLAN AND PROGRAMME OF STUDIES IN THE MASSACHUSETTS STATE NORMAL ART SCHOOL, BOSTON, U. S., ESTABLISHED IN 1873.

Designed and arranged by Walter Smith, principal.

(Extract from the Official Circular, 1881.)

The certificates issued by the schools are of four grades, viz, fourth, third, second, and first, representing four degrees of attainment, and the four grades of school, viz: (1) Certificate for teaching in primary and intermediate schools; (2) certificate for teaching in grammar schools; (3) certificate for teaching in high and normal schools; (4) certificate for teaching in art and technical schools.

The fourth grade is given for passing in classes A, B, C, or D, and marks the qualification to give instruction in art and science schools as special teachers of drawing, and for instructors of evening drawing schools. The diploma is given when all four certificates have been taken.

The third grade is given for passing an examination and producing a set of works which qualify the student for high and normal school instruction.

The second grade is given for passing the examination in the subjects for the grammar school school course.

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* Popular Industrial Art Education. The answer to a question, "The Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.: How can this institution best promote the cause of popular industrial art education?" by Walter Smith, art master, London, England; director of drawing in Boston 1871 to 1881; principal of the Normal Art School of Massachusetts; and State director of art education in Massachusetts. Boston. Rand, Avery & Co., printers to the Commonwealth, 117 Franklin street. 1882. Pp. 110.

The first grade is that required for teachers of the primary and intermediate schools. The higher certificate includes the lower. Thus a third grade certificate comprises those of the second and first grades, and a fourth grade includes the three below it.

CERTIFICATES OF THE FIRST GRADE.

(For teachers of primary and intermediate schools.)

List of certificate drawings for permission to be examined.

Instrumental drawing.— (1) A sheet of geometrical definitions, plane and solid; (2) a sheet of blackboard and dictation exercises and elementary designs.

Freehand drawing.— (3) A sheet of freehand, outline ornament, from copy; (4) a sheet of model drawing from solid; (5) a sheet of illustrations for a course of primary school exercises for teaching drawing; (6) a sheet of botanical analysis and historic ornament.

Examination for certificate.

The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session as follows: (1) Freehand drawing, in outline, from copy; (2) freehand drawing from objects; (3) memory drawing of an original design; (4) dictation drawing; (5) geometrical drawing; (6) historical ornament. Thirty minutes given for each subject.

CERTIFICATES OF THE SECOND GRADE.

(For teachers of grammar schools.)

List of certificate drawings for permission to be examined.

Instrumental drawing.— (1) A sheet of geometrical problems; (2) a sheet of perspective problems, parallel and angular; (3) a sheet of blackboard and dictation exercises, and two elementary designs.

Freehand drawing.— (4) A sheet of model drawing, in outline, from solid; (5) a sheet of freehand, outline of ornament, from copy; (6) a sheet of botanical analysis of a plant: (7) a sheet of historical ornament in outline; (8) a sheet of two applied designs for flat surfaces; (9) a sheet of illustrations for teaching drawing in grammar schools.

Examination for certificate.

The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session as follows: (1) Freehand drawing, in outline, from copy; (2) freehand drawing from objects; (3) memory drawings of an original design; (4) geometrical drawing; (5) perspective drawing; (6) historical ornament. Forty-five minutes given for each subject.

CERTIFICATES OF THE THIRD GRADE.

(For teachers of high and normal schools.)

List of certificate drawings required for permission to be examined.

Instrumental drawing.—(1) A sheet of geometrical problems; (2) a sheet of perspective, including parallel, angular, and oblique problems; (3) a sheet of machine drawing from copies or lectures; (4) a sheet of building construction from copies or lectures.

Freehand drawing.—(5) A sheet of model drawing, in outline, from the object; (6) a sheet of two model drawings in crayon or pencil, shaded, from the copy and object; (7) a sheet of two model drawings in stump, shaded, from the copy and object; (8)

a sheet of two model drawings, with the brush, from the copy and object; (9) a sheet of two outline drawings from natural foliage and common objects; (10) a sheet of design, one elementary and one applied; (11) a sheet of botanical analysis of a plant, applied in design; (12) a sheet of analysis of three styles of historic ornament.

Examination for certificate.

The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session as follows: (1) Perspective practice, one hour; (2) perspective theory, one hour; (3) model drawing, shaded from solid, one hour; (4) harmony of color, one hour; (5) memory drawing, one hour; (6) historical ornament, one hour; (7) machine drawing, one hour; (8) building construction, one hour.

FOR CLASS A. CERTIFICATE A. FOURTH GRADE.

Elementary drawing.

Days.	Hours.	Subjects of instruction.
Monday	9 to 1	Certificate works.
	2 to 4	Geometry, orthographic projection.
Tuesday	9 to 1	Certificate works.
	2 to 4	Perspective.
Wednesday	9 to 1	Certificate works.
	2 to 4	Model drawing, first term. Historic ornament and color, second term.
Thursday	9 to 1	Certificate works.
	2 to 4	Building construction.
Friday	9 to 11	Machine drawing.
	11 to 1	Isometric projection and shadows.
	2 to 4	Normal exercises.

Time sketches and test examinations.

Unless an average of fifty per cent. of marks in each subject is obtained, the student will be ineligible for the certificate examination. The records of these examinations will be kept, and along with the results of the certificate examinations be open to those who are consulting the records to see the standing of each student when making inquiries for teachers.

List of certificate drawings (to be done during the course of study, and handed in for permission to be examined).

Instrumental drawing.—(1) A sheet of geometrical problems; (2) a sheet of perspective problems; (3) a sheet of orthographic projection; (4) a sheet of machine drawing; (5) a sheet of details of building construction; (6) a sheet of isometric projection; (7) a sheet of projection of shadows.

Freehand drawing.—(8) A sheet of model drawing in pencil outline; (9) a sheet of model drawing, shaded in chalk; (10) a sheet of model drawing, shaded in sepia, India ink, or neutral tint; (11) a sheet of model drawing, rubbed or stumped; (12) an outline drawing of ornament, from the cast, in pencil; (13) an outline drawing of foliage from nature; (14) an outline drawing of the human figure from the flat; (15) an outline drawing of animal form from the cast; (16) an outline drawing of a piece of furniture, chair, table, &c.; (17) a shaded drawing, in chalk, with point or stump, of ornament, from the cast; (18) a shaded drawing, in sepia or India ink, from the cast; (19) an original design, to fill a geometric form, from a plant; (20) a design for one of the six subjects given below; (21) specimen lessons in blackboard drawing and dictation drawing; (22) a painting, in water color, of a flower, from copy; (23) analyses of styles of historic ornament; (24) botanical analysis of a plant, for the purpose of design, and four designs from it.

Design for flat surface.—(1) Design for encaustic tile; (2) design for a book cover; (3) design for a cotton print; (4) design for an oil cloth; (5) design for a wall paper; (6) design for lace.

The elementary design is to be made during the first, and the applied design during the second, term.

Examination for certificate.

The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session in the following subjects:

(1) Plane geometrical drawing; (2) perspective practice; (3) perspective theory; (4) orthographic projection; (5) machine drawing; (6) isometric projection and projection of shadows; (7) building construction; (8) model drawing from solid; (9) drawing from memory; (10) drawing from dictation; (11) historical ornament; (12) harmony of color.

FOR CLASS B. CERTIFICATE B. FOURTH GRADE.

Form, color, and industrial design.

Days.	Hours.	Subjects of instruction.
Monday	9 to 1	Painting. Certificate works.
	2 to 4	Lecture. Perspective.
Tuesday	9 to 1	Painting. Certificate works.
	2 to 4	Charcoal time sketch. Figure. Water color time sketch. Figure.
Wednesday	9 to 1	Painting. Certificate works.
	2 to 4	Time sketch in oil.
Thursday	9 to 11	Painting. Certificate works.
	11 to 1	Time sketch in water color.
	2 to 4	Anatomy.
Friday	9 to 1	Painting. Certificate works.
	2 to 4	Lecture. Historic schools. Applied design.

The three time sketches made each week are to be submitted to the principal every Friday, and will be marked by him. Unless an average of fifty per cent. of marks per week for twenty-five weeks is obtained, the student will be ineligible for the final examination for certificate. The records of these examinations will be kept, and, along with the results of the certificate examinations, be open to those who are consulting the records to see the standing of each student when making inquiries for teachers.

Painting.—List of certificate work (to be done during the course of study, and handed in for permission to be examined).

Painting in water-colors.—(1) Flower and foliage from nature, without background; (2) fruit and still life from nature, with background; (3) landscape painting from an approved example; (4) head from nature.

Drawings.—(5) Monochrome study of antique figure from cast; (6) skeleton of same; (7) muscles of same; (8) study from the living model; (9) perspective—shadows, reflections, and aërial—three examples on one sheet.

Painting in tempera.—(10) Study of ornament or arabesque, in color, from copy.

Painting in oil.—(11) Study in monochrome from cast of human figure; (12) group, as a study of composition and color, of objects or still life.

Design in color; surface decoration.—(1) Design for a breakfast or dinner service; (2) design for a tablecloth or window curtain; (3) design for a wall or ceiling decoration, fresco or paper hanging; (4) design for a lace curtain; (5) design for a carpet or drugget; (6) design for a certificate or diploma.

The student is to produce two designs selected from the above list, one of which will be retained by the school, in addition to one certificate work. One design is to be executed in each term.

All certificate works to be on imperial sheets or canvas.

Examination for certificate.

Practice.—(1) Time sketch, in oil, of a group, objects, and still life, four hours; (2) time sketch, in water colors, of a head from living model, four hours; the same of a group, four hours; (3) time sketch, in light and shade, of a cast of ornament, three hours.

Theory.—(4) Paper on the harmony of color, illustrated by sketches, three hours; (5) paper on the origin and chemistry of colors, and on the technical terms used in painting, one hour; (6) paper on the application of surface ornament to industrial purposes, two hours; (7) paper on the principles and styles of the historic schools of painting, two hours; (8) anatomy: drawing of the bones and muscles, four hours; (9) perspective, aërial, shadows, and reflections, three hours; (10) description of lithography, wood engraving, etching, steel engraving, porcelain painting, lace making by hand and machine, fresco painting, mosaic work in glass and stone, inlays, glass staining and painting, encaustic tile, stencilling, Palissy ware, Majolica, Della Robbia ware, Wedgewood ware, four hours.

FOR CLASS C. CERTIFICATE C. FOURTH GRADE.

The constructive arts (architectural design—machine drawing, construction, and design—descriptive geometry—topographical drawing and ship draughting).

Days.	Hours.	Subjects of instruction.
Monday	9 to 4	Class work. Building construction.
Tuesday	9 to 1	Lecture. Descriptive geometry. Topographical drawing and ship draughting.
	2 to 4	Class work.
Wednesday	9 to 4	Class work.
Thursday	9 to 1	Lecture. Machine drawing, &c.
	2 to 4	Class work.
Friday	9 to 1	Lecture. Building construction.
	2 to 4	Lecture. Architectural design.

Test examinations will be held on the first Monday in each month. Unless an average of fifty per cent. of marks is obtained in each subject, the student will be ineligible for the certificate examination. The records of these examinations will be kept, and, along with the results of the certificate examinations, be open to those who are consulting the records to see the standing of each student when making inquiries for teachers.

List of certificate works (to be executed during the course of study, and handed in for permission to be examined).

[All drawings to be on imperial paper, 29½ by 21½ inches.]

Architectural design and building construction.—(1) Design for a house or public building, showing plans, elevations, sections, and perspective, on one sheet; (2) structural details, on an enlarged scale, of floors, windows, roof, and staircase, of the first subject; (3) monograph of the three ancient or three mediæval or three modern styles of architecture and ornament; (4) drawing of a building to scale from actual measurement of the structure; plans and two geometric elevations.

Machine drawing, construction, and design.—(5) Sheet of screws, plans, and elevations; (6) sheet of wheels, spur, bevel, cams, eccentrics, gearing; (7) plan, elevation, and section of a locomotive or stationary engine, from copy; (8) drawing from the actual object, as a drill, pump, or any other machine, two views.

Descriptive geometry and topographical drawing.—(9) Sheet of illustrations, in outline, from lectures on descriptive geometry; development of surfaces; (10) sheet of intersections of solids and projection of shadows, tinted; (11) ship draughting, two views and section of a boat or ship; (12) topographical drawing of an estate from actual survey, or from data given; colored, and buildings sketched in outline.

Designs for ornamentation of buildings.

(1) Design for sculptured ornament in stone or marble, or enriched moulding or frieze; (2) design for an encaustic tile pavement for hall or passage; (3) design for an open fireplace or mantle, using tiles; (4) design for a stained glass window; (5) design for a cresting for a roof in metal or terra-cotta; (6) design for a mosaic panel, or inlay, or marquetrie.

The student is to produce three designs selected from the above list, one of which will be retained by the school, in addition to one certificate work. Two designs are to be executed during the first term, and one during the second. They are to be on imperial sheets.

Examination for certificate.

Architectural design.—(1) Paper on the styles of architecture and ornament illustrated in the monograph, four hours; (2) paper on building construction in the several materials used, three hours; (3) design for a building in the style employed for the certificate work, complying with given conditions; sketches required, six hours; (4) design for details of ornament, three hours.

Machine drawing.—(5) Paper on details of machinery, six hours; (6) drawing from an actual machine to scale, placed in the examination room, six hours.

Topography, descriptive geometry, and ship-draughting.—(7) Paper on solid geometry, six hours; (8) survey of an estate, six hours; (9) drawing from memory of the ship-draughting certificate work, six hours.

FOR CLASS D. CERTIFICATE D. FOURTH GRADE.

Sculpture and design in the round—modelling and casting.

Days.	Hours.	Subjects of instruction.
Monday	9 to 1	Modelling. Certificate works.
	2 to 4	Modelling. Time sketch in clay.
Tuesday	9 to 1	Modelling. Certificate works.
	2 to 4	Drawing. Time sketch in charcoal.
Wednesday	9 to 1	Modelling. Certificate works.
	2 to 4	Lecture. Applied design.
Thursday	9 to 1	Modelling. Certificate works.
	2 to 4	Anatomy. Time sketch in clay.
Friday	9 to 1	Casting.
	2 to 4	Casting.

The two time sketches made each week are to be submitted to the principal every Friday, and will be marked by him. Unless an average of fifty per cent. of marks per week for twenty-five weeks is obtained, the student will be ineligible for the final examination for certificate. Time sketches on a flat surface, to be of uniform half imperial size, and, if in the round, to be fourteen inches in height. All to be signed and dated. The records of these examinations will be kept and, along with the results of the certificate examination, be open to those who are consulting the records to see the standing of each student when making inquiries for teachers.

List of certificate works (to be executed during the course of study, for permission to be examined).

[All works to be of imperial or half-imperial size, or to be in the round.]

Ornament and animal form.—(1) Historical ornament in one style from the cast; (2) study of ornament from flat copy; (3) a design for a capital, spandrel, panel, rosette, or enriched moulding, executed the full size, for stone, wood, iron, or terra cotta; (4) model of flowers or foliage, from nature, in relief, or statuette of an animal, or an animal in relief.

Human figure.—(5) Portrait head from nature, life size, in the round or relief; (6) bass-relief from antique figure in the round; (7) anatomical rendering of an antique figure; (8) model in relief from a print or drawing of a human figure or head; (9) bust, life size, from the antique; (10) study from the life, in relief or the round of the whole figure.

Casts.—(11) Cast from nature of an arm, hand, foot, or mask; (12) cast from nature of foliage, fruit, or flowers; (13) casts from a piece mould, sulphur mould, and gelatine mould, made by the student from his own models or selected works.

Designs in the round; drawings.—(1) Design for a work in cast or wrought iron, as a grate railing, etc.; (2) design for a piece of furniture in which wood carving is employed; (3) design for a sculptured ornament in stone, marble, or terra cotta, or for a frieze; (4) design for a centrepiece for a ceiling, to be made in plaster; (5) design for a vase, pitcher, flagon, goblet, or tankard, in the precious metals; (6) design for an enriched shaft of a column or a spandrel, introducing the human or animal figure.

The student is to produce four designs selected from the above list, one of which will be retained by the school as a specimen of the student's work, in addition to the cast model. Two designs are to be executed in each term on imperial sheets.

Examination for certificate; theory.—(1) Paper on sculptured ornament of the historical schools, three hours; (2) paper on design applied to objects in the round, viz, plaster, terra-cotta, woodwork (constructional and sculptural) metal (cast and wrought), stone, marble, &c., three hours; (3) paper on anatomy of the human skeleton and muscles, four hours; (4) paper on sculpture of the human figure, three hours.

Practice.—(5) To sketch in clay a relief copy of a piece of ornment from the cast or a shaded copy, three hours; cast of the same, three hours; (6) to model a relief from the entire figure in the round, four hours; (7) to model a bust or statuette from the antique or life or shaded copy, four hours; (8) to make a charcoal sketch of a head from nature, life size, four hours.

Notice concerning certificate works.

Four of the ten certificate models are to be of imperial size, or in the round; and one is to be cast by the student, and left in the school as a specimen.

The works are to be an example of bass-relief, of mezzo or mixed relief, alto-relief, or the round; one only of which (the selected work) will be required to be cast.

REGULATIONS OF THE SCHOOL.

The only works allowed to be executed in the school are those required by the lecturers or instructors to illustrate their lectures or lessons, or those on the list of certificate works, or time sketches.*

The certificate works must be made on half imperial sheets of paper or canvas (15 by 21½), except in Classes B, C, and D, which must be on imperial sheets, canvases, or grounds.

All materials and apparatus required are to be provided by the students at their own cost; no examples for instruction can be removed from the school by the students; and any damage done to the property of the school will have to be made good by the teacher in whose class it occurs, and who is authorized to recover the cost of damage from the student causing it.

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* Time sketches, and all works other than certificate works which may be of use in illustrating the courses of instruction pursued in the school, will be retained in it.

The attendance of the students will be registered daily, and absence from the classes must be explained to the instructors.

At the class lectures the sketches and illustrations made or used by the lecturers or instructors are to be reproduced by each student, accompanied by such written descriptions as may be deemed necessary.

There will be a recess from 1 to 2 P. M., between the morning and afternoon sessions.

Each lecturer will require a certain amount of work to be done by the students between one lecture and another. This home work must be regarded as a part of the school work, as much so as that done in the lecture room or studio.

The text books used or required for reference will be indicated by the lecturer on the several subjects. Any certificate work which, in the opinion of the principal, does not show sufficient skill to qualify the student to teach the subject will be rejected, and another must be made.

Every student will be provided with a locker, in which to keep boards and drawing materials. On receiving the key, the student must deposit $1 as a guaranty that the key will be returned; when it is returned the money will be repaid.

A student can be advanced from one class to another only on completion of the whole set of certificate works of the class he is in, and a student who passes any subject of examination cannot be reëxamined in the same. A student can be a member of only one class during one session, unless permission be given by the principal.

VIII.

OFFICIAL HISTORY OF THE STATE NORMAL ART SCHOOL AS GIVEN IN THE ANNUAL REPORTS OF THE MASSACHUSETTS BOARD OF EDUCATION.

In the reports annually made to the State legislature by the secretary of the board of education, the "board of visitors," and the State director of art education, so far as these reports refer to the Normal Art School, there is contained the official history of the school. The following extracts from some of these reports give a view of its small beginnings and healthy development under the inspiring influence and direction of Walter Smith, who is to be credited with the plan of instruction, management, and success of the school; and that it was wonderfully successful these official statements emphatically demonstrate.

When the harmonious relations between the head of the school and the governing board were unfortunately disturbed some decisive change was to be predicted. It is, therefore, not surprising that, owing to this disruption of friendly relations, the era of the development of the school under the guidance of Walter Smith has so soon become history.

We shall, however, from these official records of the progress of the school readily realize how rapid and successful had been this development.

SOME PRELIMINARY CONSIDERATIONS.

But before proceeding with this official history it seems proper, in view of the recent events by which Professor Smith was removed from the field of his labors and his triumphs, and more especially in deprecation of the hostile criticism of the school lately uttered by high official authorities, to state, as clearly as may be, the conditions under which this school was founded and the purpose for which it was intended.

THE PROBLEM WHICH THE NORMAL ART SCHOOL WAS DESIGNED TO SOLVE.

In considering this school, it should be borne in mind that it is "sui generis." It was an experiment devised to meet a need hitherto unforeseen. No European model could be exactly followed, by reason of the want of similarity between the public schools in Europe and the United States; while, so far as art training schools in the United States were concerned, there was nothing to suggest it. Upon the pedagogic side there were, it is true, the normal schools, devised for the training of teachers for the public schools—which, by the way, in the United States, were first established in Massachusetts—and these doubtless suggested the name, and in some sort the plan; for the first need to be met in the introduction of this new study was the lack of persons who knew how to *teach it.*

While, on the one hand, the providing of ample educational facilities for thorough training in the principles and practice of the new study, was the one essential prerequisite condition for the ultimate success of this novel educational movement, and, therefore, an institution in which the highest order of art instruction could be obtained was to be established; on the other hand, it was of vital importance, if the new experiment was to be fairly tried, that the pressing demand for teachers capable of instructing the public school children in the simplest elements of drawing, should be met at the earliest possible moment. It was in view of this urgent need, that many of the pupils who first entered the school did so with no intention of prosecuting their studies through the four years necessary to secure the diploma of art master or art mistress. Their object was, as soon as might be, to get a right start, to learn enough to be able to teach in the primary public schools, although in many instances they came with the hope of returning for further instruction.

THE FIRST DEMAND ON THE SCHOOL.

The problem was to provide in the shortest possible time teachers capable of introducing the study into the public schools. The trained art master or art mistress, who had faithfully completed all the prescribed courses of study and who had merited the diploma, would undoubtedly be qualified to undertake the direction of the drawing in all the public schools of a town or city; to instruct the teachers, to supervise the schools, and to develop the system from the primary to the high schools; but many teachers are required for one such superintendent, so, as we have seen, provision was also made for instructing such teachers. It will then be readily understood that the measure of success of this institution is by no means to be restricted to the number of those who graduate; that is, receive its diploma. Those are analogous only to the school superintendents of cities or towns. Nor is its success to be even limited by the proportion of those who obtain certificates in one or more branches, because many pupils who do not pursue any one single branch far enough to be entitled to rank as masters in this or that class of the study, which is what the certificate signifies, may yet be sufficiently well trained in each of the branches to amply qualify them to carry the pupils of the primary, intermediate, or even the grammar schools, through the course laid down for those schools. The primary object of this school is, then, to qualify teachers for the public schools; the ultimate object is to give the most thorough possible training and knowledge in all matters relating to the art of teaching drawing, and also all technical knowledge of art as applied to industry.

THE COMPLETE WORK OF THE SCHOOL NOT POSSIBLE AT FIRST.

The fullest development of the school in its direct influence upon the manufacturing industries of the State can never be properly tested till the scholars who enter it come to it as perfectly trained and prepared as a continuous drilling in the progressive system of drawing, as arranged from the primary schools through the high schools, by Walter Smith, will prepare them; then, when the Normal Art School receives pupils into its lowest class as thoroughly prepared for its course of study as are the freshmen who enter the halls of Harvard or Yale in the studies there required, it will be time to make the test of the standing and success of the Normal Art School, the ratio which the graduates, those who receive the diploma of art master or art mistress, bear to the whole number of pupils enrolled on its lists, but not till then.

INHERENT DIFFICULTIES.

When it is remembered that Walter Smith knew nothing experimentally about American public schools, and understood as little as do most Englishmen, self assertive and positive, both by nature and training, how to get along smoothly with that peculiar combination of independence and sensitiveness, of self assertion and willingness to learn, which is characteristic of Americans; and when, further, it is remembered that those most friendly to the introduction of the new study knew little about it technically, while Walter Smith was absolutely *master* of the necessary knowledge, though ignorant of the ways of American teachers and the peculiarities of American schools and of American society, the wonder is, not that there was, eventually, friction and difficulty, but that there was ever anything else. It speaks volumes for the bigness of brain and heart, not only of Mr. Smith, but of the leading educational officials of that day in Boston, that so much was so successfully accomplished. Among others, to Mr. Philbrick as the official head of the city schools, credit for this is due.

Mr. Smith, in showing himself capable of combining the excellencies of other than English systems with the best English methods, and of adapting them all to the needs of these new conditions, justified the judgment of the South Kensington authorities who had indorsed his fitness for this great and difficult work.

STATE SUPERVISION OF THE SCHOOL.

The State board of education designates certain of its members known as "visitors," to have special charge of the several normal schools. The new "normal" school was in like manner placed in charge of its own "board of visitors." The several reports of the visitors are appended to the annual report of the board.

The first board of visitors of the Normal Art School were appointed in December, 1873. They were Messrs. John D. Philbrick, A. A. Miner, Phillips Brooks, and Joseph White.

OFFICIAL REPORTS.

Their first report appears in the volume of the Thirty-seventh Annual Report of the Board of Education, for 1872–'73, and begins as follows:

> The most important event of the past year connected with the educational interests of the Commonwealth was, doubtless, the establishment of the State Normal Art School. It is a small institution, with totally unsuitable and inadequate accommodations, and is carried on at an insignificant cost, compared with the vast industrial interests it is designed to promote. But its importance is seen in the purposes which it is intended to subserve. It is an essential element in that system of agencies which the government of the State is beginning to put into operation for the purpose of diffusing art culture, not only as an indispensable constituent of a competent general education, but as a means of enabling our manufacturers to compete more successfully with the manufacturers of Europe.

The report proceeds at some length, and shows on the part of the board a clear comprehension of the problem set before the State, namely, the need of improved artistic training if Massachusetts was to hold its own in manufactures, and the best methods of imparting such training. Full details of the organization of the school are given in an appendix to their report.

As the account already given of the first commencement of the Normal Art School includes a statement of the origin of the school and of its progress for the first three years, made by those most familiar with the facts, the official reports covering that period of its history are here omitted.

In the Thirty-ninth Annual Report of the Massachusetts Board of Education, for 1875, the report proper states that while many regarded the experiment of a State Normal Art School as of very doubtful utility, "its success has more than justified the hopes of its friends." The need of art training in the State is emphasized, and full statistics of the attendance on the Normal Art School are given.

The "board of visitors in charge of the Normal Art School," under date of December 29, 1875, declare that "it is the child of necessity,"

* * * and that as soon as opened "it became apparent at once that it met a public need;" they then state the insufficiency of the previous accommodations, and announce the removal to School street. Of the rooms there they say: "Though not everything that could be desired, they are a very great improvement upon the accommodations previously had. They are ten in number, three of them being large, furnishing ample space for lectures, * * *" and close with the statement that—

The director, Mr. Walter Smith, whose office is in the building, lectures and otherwise gives close attention to all departments. The visitors are gratified with the condition of the school and the progress it appears to be making. They cannot doubt that it is exerting a happy influence, both by its example and through the pupils it sends out, upon the interests of art education throughout the country. It is believed that its contributions will add not a little to the interest of the art department of the approaching Centennial Exhibition, as it has added to the several annual exhibits in this city.

The appropriation for the current expenses of the school for 1875 was $9,000, exclusive of incidentals. The expenses, including incidentals, have been $10,987.25.

Respectfully submitted.

A. A. MINER,
GARDINER G. HUBBARD,
PHILLIPS BROOKS,
HENRY CHAPIN,
Visitors.

December 29, 1875.

The State director of art education, after giving details of the removal of the school to its new quarters, discusses at some length the intention, character, and experiences of the school, as follows:

In these first years of existence, the Normal Art School cannot display either the character of its courses of study or the skill of its instructors, for its students come to commence the study of art, rather than to perfect their knowledge. To understand its true position with regard to more than ninety per cent. of its pupils, we should imagine one of the State normal schools having for entering pupils, year by year, those who can neither read, write, nor cipher; that would place it in general education in a corresponding position to the one occupied by the Normal Art School in art education. This may seem a strong statement, but it is absolutely true; for out of the 600 students examined for admission to the school during the past three years, there have not been 10 whose drawing of a simple geometric solid was true in form, and I have every paper yet worked ready at hand to verify the statement. Let critics who may know what the word normal means applied to a school remember this condition of things when impatient of immediate results from the establishment of the school. And when it is remembered that for the accommodation of our 300 students we have not as much room as there is on any one floor of any other normal school building in the State, it will be seen that even other circumstances are not particularly favorable. Nevertheless, the premises now occupied on School street are such an infinite improvement on the past that we are strengthened to hope for the future. It has been the task of the present officers to show, as pioneers, what *may* be done; it will be the more fortunate prerogative of their successors to accomplish this ideal of the future, what *should* be done. It has been found necessary to impose a small subscription of $20 a year on the students, because of the expenses of the school; this is not deemed to be necessary in any of the other State normal schools (except to a nominal extent), and I trust that as soon as the legislature provides a rent free building in which to conduct the school, it will be as free as other State schools are to the citizens of Massachusetts, whatever may be charged to non-citizens.

The appropriation for casts for the new classes will confer additional opportunities of advanced instruction on the students who continue their studies for several years, and when one student has graduated after a four years' course we shall see the living similitude of an art master in our midst, only needing a quarter of a century's practice in teaching what he has learnt, and further study of it to know as much about art education as the average grammar schoolmaster knows about general education. This should encourage the art student to commence his studies early, if he desires to arrive at a fair amount of knowledge on this side of the grave.

The near approach of the Centennial Exhibition suggests the remark that the courses of study pursued in the public schools of this State, as well as of the Normal Art School, will give the world an opportunity of informing us what is thought of our educational efforts. This will be a practical convenience to many whose knowledge of the subject does not enable them to arrive at reliable conclusions, and whose minds are occasionally disturbed by a cloud of local witnesses, having their judgments warped by being of homely experience alone. The cultivated critics of the Old World, having had very favorable opportunities to study the subject of art education, will confer much satisfaction upon us by offering their opinion on the work in industrial art instruction now being carried on in Massachusetts, remembering that it will be less than five years old when the judgment is delivered, and whatever may be the verdict we must remember that in competition with the world, though we are tried by competent judges, we must be judged only with those who are our equals in experience. It may not be exactly the intention, nor will it be for long the exclusive privilege of Massachusetts to provide the teachers of industrial art for the rest of the continent; but it is nevertheless a fact that there are but few of the States, and fewer provinces of North America, who have not received either impulse and inspiration or living teachers of art from the Massachusetts Normal Art School. Perhaps this is not antagonistic to the instincts of her most public spirited citizens; but if it be so, the burden must soon be shared by other States, such as New York, Pennsylvania, and even California, who are already active in imitation of the artistic enterprise of Massachusetts, the home of my pioneer fellow countrymen, the Pilgrim Fathers.

Respectfully submitted.

WALTER SMITH.

Under date of January, 1877, the board of visitors report:

The work of this school has been progressing steadily during the past year, and in this the fourth year of its existence has the four classe sinto which its work is divided in successful operation. * * *

A large majority of the special teachers of drawing employed in the public schools of the State either have been, or are now, students of the Normal Art School, whilst all the teachers of drawing in the State Normal Schools have received instruction at the Art School.

Thus the school is beginning to make its influence felt over a broad area, and every year must increase this influence.

After referring to the Exhibition made at Philadelphia, an accountof which by the Art Director follows, they say:

The movement in favor of industrial art education, commenced by legislative enactments in 1870 in this State, has been spreading widely into other States, and the economic importance of the measure is now being generally recognized. From all sides we hear of determined action by school boards and educators to have drawing taught in the public schools as a safeguard to our manufacturing industries, and the testimony of the most distinguished school men points to our action here as conclusive. Thus, recently, Mr. Harris, superintendent of schools in St. Louis, says:

"That State (Massachusetts) will soon stand in the very first rank among industrial peoples for the tasteful ornamentation of its manufactures. In this respect, St. Louis, which outranks other Western cities in the variety and aggregate value of her manufactures, aspires to emulate Massachusetts, and therefore regards all money expended in industrial drawing as an investment that will return a hundred-fold to the wealth of the city through the increased value of her products."

TESTIMONY OF FOREIGN VISITORS TO THE EXCELLENCE OF THE SCHOOL.

A recent deputation from the British provinces, charged to examine into the best plan of industrial drawing in the United States, visited all the great cities of the Union, and among other institutions the Normal Art School of Massachusetts. Returning to Canada, they reported that the work proceeding from the Normal School of Massachusetts was the most complete success found in the United States, and they recommended the adoption of the Massachusetts system in all the British provinces.

It is only just to ourselves to remember that, whilst some criticise our methods, outsiders, who are on the search for a sound system of art education, all turn their faces to Massachusetts and say they find it here.

If this is the case now, in our infant stage of development, we should be encouraged to go on and have faith in the future. The Normal Art School, as it progresses and supplies all our cities and towns with accomplished teachers of industrial art, will be the centre of an important influence, having no less an object than the transformation of a nation of inartistic people into an art-producing people, whose skill and taste in manufactures shall in the not distant future be the safeguard of society and the admiration of the world. For let it be remembered that art and scientific skill are the signs of civilization and the sources of national wealth, and that these are only to be achieved by education.

Though the condition of the school is eminently satisfactory under the circumstances, it must not be forgotten that its complete development will be retarded until a building adapted for all the different branches of study shall have been erected. This alone will enable the State to reap the full advantages of its past work in organizing a corps of instructors and a scheme of industrial education.

They give a total of 442 students, as taught during the year 1876: ladies, 271; gentlemen, 171. Class A, 338; Class B, 61; Class C, 24; Class D, 19.

One-half of the students are residents of Boston, ten from other States; namely, three from Vermont, and one each from New York, New Jersey, Ohio, Minnesota, Rhode Island, Maryland, and Pennsylvania, and the remainder from Massachusetts.

The appropriation for the support of the school for the year 1876 was $13,250. The actual expenditure, exclusive of incidentals, has been $15,048.37.

A. A. MINER,
G. G. HUBBARD,
HENRY CHAPIN,
Visitors.

January, 1877.

The Art Director's report for this year is so largely occupied with the Normal Art School and the exhibition at the Centennial, that, with the exception of the details of the number of drawings selected for the Centennial, it is given entire:

To the Members of the State Board of Education:

GENTLEMEN: Although this centennial year has not been marked by any especial feature or new experience in the promotion of industrial art education in this State, it has given us the opportunity, by a systematic display of results already achieved, to see what is the true character of the movement.

The International Exhibition at Philadelphia, though conspicuously neglecting in all arrangements the one great boast and pride of the country, viz, its education, did place at the disposal of educators several small apartments at the side or end of the main building, approached by so many stairs that ordinary exhibitors would not have their products concealed there. These having been rejected by business exhibitors on account of their inaccessibility, were placed at the service of education, but at so late a period that no estimate could be formed of the nature and amount of display the space allotted was capable of accommodating. As a consequence, the educational exhibit, taken as a whole, was that which was least seen, and made the slightest impression on the visitors.

The task intrusted to me by the board of education, viz, to see that the subject of industrial art education as taught in Massachusetts should be illustrated as well as the circumstances would allow, occupied much of my time during the early part of the year. The annual exhibition of drawings from the day and night schools of the State, usually held at Boston, in Horticultural Hall, about the middle of May, was this year held in March, and was regarded as a preliminary to the exhibition at Philadelphia. A board of judges, consisting of C. C. Perkins, W. R. Ware, C. A. Barry, O. Fuchs, and myself, was appointed by you to select representative works from all the grades of schools and classes to form the State exhibit at the Centennial Exhibition, which service was performed by it, and thus the works sent were such as might fairly be considered representative. It was the unanimous opinion of the judges that the progress displayed, both in the character and quality of the exercises, was as marked and as great as in any preceding exhibition over that which it succeeded.

The amount of public interest displayed in the exhibition was so general that 30,266 persons visited the collection in three days, and during a portion of the time a large number were unable to gain admission, from the crowded condition of the halls.

The most original feature of the collection was a complete exhibit of the four years' course of studies pursued in the Massachusetts Normal Art School, and it awakened the deepest interest in the public mind. For the first time a systematic course of art study, embracing all branches of educational practice, was displayed in this city, with the somewhat unique characteristic that almost every example of which it was composed was the first attempt in each branch of the student who produced it. The works, therefore, illustrated a course of study and laid no claim to be works of art, and this is a distinction which should always be remembered in the examination of such exhibitions. So considered, the collection appears in strange contrast with the first exhibition of drawings held in 1872, and the State ought, I think, to be willing to be judged by it.

The general teaching of design in the public schools and evening classes of the cities and towns participating in the exhibition was one of the most decided evidences of progress displayed. This is a result which should grow out of any scheme of education, viz, the development of originality, and the instruction in this branch of drawing now being given in so many places will bear fruits a hundred-fold, both educationally and industrially.

Twenty-four cities and towns of Massachusetts were represented in this exhibition. Including those sent by the Normal Art School, there were shown a "total of 241 frames containing 917 drawings, and 51 portfolios containing many thousand drawings."

The details of those shown by the Art School were:

Class A, 24 frames, containing 48 drawings and 6 portfolios; class B, 18 frames, containing 36 drawings and 4 portfolios; class C, 12 frames, containing 12 drawings and 1 portfolio; class D, 9 frames, containing 10 models.

For this exhibition of drawings the Normal Art School received the recognition of a medal and diploma; and, though this is not much of a distinction—remembering how such awards were made, broadcast to all—it is some satisfaction to know that the Normal school has never yet exhibited its works without receiving the highest award offered for such works.

As the years progress, the character of the duties performed by me for the State must necessarily change. Thus, during the first two years of my engagements, my efforts were almost confined to visiting the different cities and urging them to comply with the law of 1870, having reference to the adoption of industrial drawing in day and evening schools. As the different localities fell into line, and endeavored to provide this instruction, the need of teachers was felt, and then came the task of organizing, in a very modest manner, the Normal Art School. As year by year added new classes and increased the responsibility of directing the studies, the school has occupied much of my attention. Now, it appears to be on a permanent basis, requiring only the watchful care of experience to keep it steadily at work, I hope to be able to give some time to the normal schools of the State, which must be considered as the most immediate sources of improvement in drawing for the day schools.

Respectfully submitted.

WALTER SMITH.

January 1, 1877.

No report by the State Art Director appears in the Forty-first Annual Report of the Board of Education, but the board of visitors of the Normal Art School discuss the purpose and progress of the school at some length and with evident satisfaction. Writing at the close of 1877 they announce that the school completed its fourth year in June, 1877. Having stated that no such comprehensive instruction in industrial art has before been available in this country, and enumerating both the number of pupils that have attended from the first and those that are now in attendance, as proof that the public appreciate the advantages of the school, they sum up this part of their report as follows:

Having supplied an evident public need, the school should have its claims to support by the State recognized, and its wants provided for. As stated in previous reports, this can only be secured by the provision of a suitable building, in which the several classes can be accommodated, with such arrangements in regard to lighting and study as only a building erected for the purpose can secure.

It is evident that the whole subject of industrial education, to which elementary drawing is but the introduction, has been occupying their thoughts, and they proceed to discuss the subject, as well as to state particularly the purpose of the Normal Art School. As these conclusions and reflections are as applicable in most American communities as in Massachusetts, they are given at length. The few words in regard to "specialists" have a broad significance and application, and are worthy of serious consideration.

There are good reasons for thinking the time has come when it would be an economical measure to develop the industrial resources of the State by means of technical education, and the board would urge this consideration upon the attention of the general court. Perhaps a general explanation of the grounds for this action, and a statement of the practical results sought for in the Normal Art School, will here be in order.

It has been somewhat difficult, through the absence of general information on the subject, to keep clearly before the public mind the true work accomplished in this school, the first and only one of its kind in America.

The aim of the school is to provide teachers of industrial art as a means of remedying, even if indirectly, the deplorable want of skill and taste in the industries of the State. In any country where apprenticeships to trades are not general, and no substitutes are provided in the form of technical or industrial schools and institutions—poor substitutes though they may be—the industrial skill of the community will be undeveloped.

That is the condition to-day of many industries here; and where it is not so, the explanation of superiority is generally to be found in the fact that imported skilled labor has taken the lead.

TECHNICAL TRAINING SCHOOLS NEEDED.

We must have schools of art and science in every city and town, and classes in the two groups of subjects in every village in the State, before any reasonable hope can be entertained of influencing most favorably our varied industries.

WHY THESE MUST FORM PART OF A SYSTEM OF PUBLIC EDUCATION.

These schools and classes must have specially trained teachers, and such teachers are not self-created. They have always been the fruit of public effort and secured at public cost.

The modern technical university, while it appeals to the intelligence of all practical men, makes no appeal to the faith or superstition of wealthy benefactors, as did mediæval institutions, and is of too recent origin to have enlisted the patriotic sympathy of the many who have money to devote to educational purposes.

Universities and colleges for general and professional education have practically monopolized bequests and donations, and left industry unprovided for. Yet in recent times and some European countries, not only wealthy and patriotic men, but the most far-seeing governments have recognized the necessity for practical education in art and science, and are supplying it with unsparing hands.

This is the case where apprenticeships to trades are still zealously maintained. We, in this country, where they have been generally abandoned, are doing little or nothing for the production of skilled labor.

THE NORMAL ART SCHOOL BUT THE PIONEER OF INDUSTRIAL TRAINING SCHOOLS.

The need of this country for such industrial education is immediate and sore, and the first step towards securing it is the establishment of normal art schools, the remedy which has been tried and found successful elsewhere.

We have to recognize, then, that this school exists as a practical remedy for a very practical deficiency in our scheme of public education, which causes great annual losses to society both in money and credit.

The nation provides a professional education for its soldiers and sailors only, and leaves other professions to shift for themselves; and States, though sometimes found to be large contributors to advanced education, prefer to leave the majority of such educational enterprises in the hands of private persons or organizations.

But this matter of industrial education is purely an economical one, by which every person is affected as completely as by a high or low tariff; yet our National Government has not moved in it, and as yet only Massachusetts, among the States, has recognized its vital importance to industrial prosperity, by establishing and supporting an industrial art school.

Whether we are doing the best possible work in educating teachers of drawing and designing, and in the best way, can only be answered by considering the circumstances under which the work is done, and the material available.

At an early period of our experience it was necessary to impress on large numbers who sought education in this school the fact that none could be admitted who wished for instruction in drawing and painting merely for amusement, recreation, or professional art-training, and that the State undertook to train and educate only teachers for industrial art.

Many scores of persons have been thus debarred from admission. This has given rise to a curious misunderstanding, which ought here to be corrected. The conclusion drawn from this condition of admission, which has never been waived, has been that the school was not adapted to educate artists. but only teachers of drawing, and that is generally the burden of the criticisms on its scheme of education.

The radical mistake underlying such a view is the assumption that a teacher of art need not be an artist.

The true doctrine about this matter is, that the State does not propose to educate people who are merely to become artists, as the term is popularly understood; but it must endeavor to make artists of all its pupils before it can find out whether they have brains and calibre enough to become teachers of art; for who can teach a subject he knows not, and how few can teach well even subjects they know.

The State offers and gives here a four years' training in the practice of art, and it will take no less time to discover who among the many students can aspire to become true teachers. But there will be many artists made here for every teacher worthy of the name; and the students and public should realize that the artists produced who are not teachers will be the failures, and the teachers who must of necessity be artists will be the successes.

Yet it is sometimes ignorantly supposed that a high degree of practical success in art, such as the painting of a good picture in oil or water color, or the modelling of a good bust, statuette, or bass-relief, is not attained here, because only teaching exercises are practiced. That is a delusion which should be exploded.

WHAT IS REQUISITE TO MAKE AN ART MASTER.

If a student is found to be incapable of doing what a professional art student, portrait, historical, or landscape painter, designer of sculpture, or draughtsman in the constructive arts is expected to do, then he necessarily falls out of the ranks as a prospective art master, and becomes a specialist in one narrow subject, having no place here and no right to be here. And the specialists are generally the weakest, tried by a broad standard. Complete knowledge of any subject requires a rounded knowledge of all subjects related to the main one. And the greatest artists of all times have been the greatest, not only in one, but in all branches of art they practiced.

When the school has been long enough in existence to graduate a class from twelve to twenty every year, then it will become possible to supplement the work of the normal school by schools of art and science all over the State.

The most hopeful facts in this year's experience are the decrease in the average age of students and the increase of their attainments. There is a larger proportion among them who are devoting their lives to study now, and are supported while doing so by relatives and friends.

A great majority of the students hitherto have been compelled to work daily for support, and study what they could in the time left—a disadvantage to them and the school. Moreover, many of them have been men and women who find learning new subjects after the meridian of life is passed no easy matter.

As year by year the average age of the student becomes less and less, the work will be better, and their education more complete.

The standard of examination in the classes has been slightly raised this year, though several of the students have distinguished themselves by very high marks.

Looking back at the year's work, now it is over, the board of education are to be congratulated on the body of students attending the school. It is not too much to say that they have made good use of their opportunities, and merited their success.

The question is sometimes asked whether there is, at present or prospectively, employment for the graduates of the school. We have to provide for a time. that is not remote, when every city, town, and village will require its industrial art school or classes, judging by the experience of other manufacturing countries; and it is to the manifest interest of a manufacturing State like Massachusetts that such schools and classes, when established within her borders, shall be provided with competent teachers. The work of this school is to prepare such teachers, and it is believed that no one of its graduates will ever be involuntarily out of employment.

Of those students who have commenced the course of instruction in the school, and taken one or more certificates, the following is a record, showing to what extent they are employed even before graduation:

Total number of students holding certificates	134
Of these there are employed in teaching	81
Continuing their studies in the school	25
Not heard from	28

It is probable that many of the twenty eight not heard from are utilizing their instruction and taking advantage of the certificates they hold; but the proportion of those known to be already employed, or still studying—106 out of 134—is sufficient evidence that there is a field for the employment of all. * * *

A. A. MINER,
GARDINER G. HUBBARD,
CHAS. B. RICE,
Visitors.

BOSTON, *December* 27, 1877.

In the Forty-third Annual Report, that for 1878–'79, made January, 1880, the State board of education declare that "the Normal Art School is successfully accomplishing the purpose for which it was established—the preparation of teachers of art in the public schools," and go on to state that its influence upon the arts and manufactures of the State are already apparent, and that the wisdom of establishing and supporting it has been fully shown. The board of visitors repeat their approval of the school:

> Every passing year adds to the thoroughness and compactness of its organization and to the efficiency of the labors of its skilled and faithful corps of teachers, led by the distinguished director whose marked ability has already been so fully recognized.

They urge upon the legislature increased appropriations, and especially the provision of a building for its use.

The report of the director of art education for 1879 is a lengthy paper, with an appendix of fifty pages, containing the full programme of a graded course of drawing for public schools. It begins thus:

> The report which I have to submit to the board of education concerning the progress of industrial art education in this State for the past year may be chiefly and properly devoted to a consideration of the history, object, and present condition of its principal source, the Massachusetts Normal Art School.
>
> As there are some misconceptions in the public mind concerning the school, whilst its maintenance and success are more than ever essential to the development and progress of industrial art in the State, it is proposed to place this statement before the board and the public, in order that the position of the school may be seen in its true light.

Then follows a re-statement of the origin of the school, already sufficiently told here in the preceding pages. The following, upon the object of the school and the public interest in industrial art training, is both essential to the complete history of the school and of permanent general interest:

OBJECT OF THE SCHOOL.

Though this has been frequently and fully described, it will be necessary to repeat the explanation until it is understood by the public, which supports the school.

The primary object sought by the school is to educate and train teachers of industrial drawing so that the law of 1870 may be complied with.

There is a prevalent notion that the school is carried on to train designers for manufactures only; but though this will be indirectly the inevitable and final result of the education given in the school, it is not the first or only aim.

So limited a purpose as that was found to cause a failure in those schools of the Old World which pursued such an object only, and the surest way of producing designers was discovered to be by educating the whole people in the elements of art by means of trained teachers, who should scatter this instruction broadcast over the land, and thus open the doors of success in art and skilled labor to every intelligent person. That this is the most economical way to secure the end proposed, and bring the opportunities and advantages of art education to the largest number of the population, has been demonstrated both by the actual history of the school and by the experience of other countries. Every student passing through the school, or even through part of its course, will influence, when employed, many thousands of persons by the instruction he gives to the teachers of the public schools, and through them to the children. It might be instanced that the teachers of drawing in the five normal schools at Salem, Bridgewater, Worcester, Framingham, and Westfield have all been students in the Normal Art School. By their education in it every pupil in those normal schools has been effected, and every one of those who becomes a teacher will teach drawing as well as he teaches any other subject. The same holds good in such important centres of manufactures as Lowell, Worcester, Fall River, Lynn, Lawrence, and Springfield, and all the cities of Massachusetts where trained teachers from the Normal Art School are employed to instruct the teachers of the public schools, supervise their instruction in the schools, and conduct the free evening drawing classes for mechanics.

In the same way it may be noted, that, of nine teachers now employed in the Normal Art School itself, seven have been trained in it; and, of twenty special instructors employed in the day and evening schools in Boston, fifteen have been educated in the school, the remaining five having been appointed before the school was established, and not being teachers by profession.

It would have been impossible in any other manner than through a normal art school to effect so wide and ever-increasing an influence upon public education, or to do it so economically to the State.

WHAT THE SCHOOL HAS ALREADY ACCOMPLISHED.

This, therefore, should be considered when the cost of the school to the State is being discussed. There can be little doubt that, directly or indirectly, every class-room in the public schools of Massachusetts has been affected by the work of the school, not so effectively or generally as will be the case more and more every year, but to an appreciable extent even now. Many important semi-public schools, colleges, and institutions of Massachusetts, such as the Boston Fine-Art Museum School, the Institute of Technology, Wellesley College, and Holyoke Seminary, have now in their employment teachers of drawing trained in the Normal Art School; and these institutions would have found it difficult to obtain such competent teachers if the school had never existed.

This, then, has been the aim of the school; and from it there has been no deviation. It has not attempted to make accomplished specialists in the practice of any one branch of art, which is the proper aim of private schools and tuition, but to give such a thorough general knowledge of the whole field of industrial art education as can be most successfully used in public employment; and this guarantees to the State—the source from which the education is derived—a return for its outlay of public money. The school will incidentally produce both designers and artists; but its success must be measured by its product of good teachers.

This is what the school was established for; and if it has, under the circumstances of its short existence, done the work as well as could be expected, it has succeeded; and, if not, it has failed.

That is the only standard by which it can be fairly judged, and the evidence on this point is a matter of fact.

If the results already secured have enabled us to make a satisfactory beginning at the very foundation of industrial art education, it may be safely promised that, as progress is made in it and teachers of the highest qualifications required, the school will be able, through the attainments of its older and graduated pupils, to minister to this need also.

Higher technical instruction will be required as schools of art and science are established—as they undoubtedly will be—special schools, in which the direct application of art to industry is taught; and the studio and class-room are mere ante-rooms of the workshop.

The graduates of the school—those who have spent four years under instruction, attained a high degree of manual skill and a rounded knowledge of the subject of industrial art, and who have matured and tested these qualifications in the laboratory of actual experience in teaching, organizing, and testing classes—they will be ready and able to become principals of such special schools; and we may expect here as elsewhere that every city will eventually make a school of art and science the centre of its system of industrial art education.

TEACHERS MUST BE TRAINED BY THE STATE.

Without the trained teachers for such institutions it would be impossible to carry them on; and it ought to be recognized as the experience of the whole world, that private enterprise has never established normal art schools to provide them.

No private or individual interests are concerned in general education sufficient to induce people to make an outlay of their means or an investment of their capital in it as a private enterprise by educating teachers; so, unless this provision for a public necessity has been made by the State, it has never been made at all; which was our experience in Massachusetts until the Normal Art School was established.

Other results from the leavening influence of the school are arising on all sides.

Associations for the encouragement of art study and the practice of branches of art industry have been organized in many portions of the State, and are on the increase. The whole subject of industrial art is now engaging the attention of many persons who are interested in it from its economic as well as social aspect, but who could see little prospect of improvement until the general diffusion of sound principles of taste among the people by means of drawing opened the way to improvement.

It is true that the first steps only have been taken in this march forward; but in every journey the first steps are as necessary to progress as the last.

There are three agencies by which the art education of a whole people can be efficiently and economically secured: first, by the teaching of drawing in the public schools; secondly, by providing, through a normal art school, the teachers who can bring this about; and, thirdly, by the establishment of a museum of fine and industrial art, open to the public on terms which are non-exclusive.

All of these three agencies are now in successful operation in Massachusetts; and all that is now required to reap from them all the advantages they are able to confer is, that the work begun shall be patiently continued until the results anticipated shall be accomplished.

THE PUBLIC DEMAND FOR INDUSTRIAL ART EDUCATION.

It was at first thought that there was not a sufficient demand for instruction in drawing to make the provision of a normal school by public action necessary and justifiable; yet no one ever suggested the means by which the law of 1870 could be carried out in any other way. So, at its first establishment, accommodation for 35 students only was provided in the school; yet 107 students entered at the first examination for admission, and they had to be taught in three sections, and receive only a third of the time they should have had for instruction.

Since the opening of the school in 1873 no less a number than 1,543 pupils have been taught, averaging in the seven years of its existence an annual studentship of 220.

These students have stayed longer or shorter periods in the school, varying from less than one year to six years, according to their means of support during study, or their opportunities of employment, which have in many cases taken them from the school before completing even the first of the four groups of study into which the whole course of four years' work is divided. But already the school is beginning to feel the influence of the teaching of drawing in the public schools; and youths of both sexes are now in their third or fourth years of study at the school, who were well prepared to enter it through previous instruction in the public schools, and their progress and attainments are in every way remarkable.

Familiar with the European normal art schools, I know of none in which a more thorough education is given, or which has a body of students of greater promise. And this opinion has been supported by every competent educator who has examined the subject for the purpose of comparison.

FOREIGN TESTIMONY TO THE EXCELLENCE OF THIS SCHOOL.

The French Imperial Commission, sent to the Philadelphia Exhibition of 1876 for the purpose of examining and reporting upon the subject of education as there displayed, after a most scrutinizing and exhaustive inquiry, reported officially that:

"As soon as the Normal Art School shall have had time to bear fruit, we can predict to the industrial art of Massachusetts new increase and a brilliant future."

This report was made on the evidence of work produced in it when only three years old; since which time it has been immeasurably improved.

In a valuable article upon the art institutions of the United States, published in Harper's Monthly for March, 1879, the following testimony is borne to the influence and success of the Normal Art School:

"The Massachusetts Normal Art School, while devoted chiefly to the advancement of industrial art, has also, by its example, greatly assisted the growth of art feeling in the popular mind. * * * It may be conceded, then, that the founding of the Massachusetts Normal Art School was not only a strong indication of a growing demand, but that it has also been a very powerful agent in the diffusion of art knowledge in the United States."

I introduce this independent and expert testimony—in the first case that of the chosen representatives of the most artistic nation in the world, and, in the second, from a review which has identified itself with the art progress of America—to show that, however little the school and its work is sometimes understood and much misrepresented, yet in the minds of competent judges there is but one opinion, and that one of commendation, concerning it.

PUBLIC APPROVAL OF THE SCHOOL.

Its appreciation also by the public may be measured by the fact that its course of study has been displayed at every important exhibition since its establishment, and never yet so exhibited without receiving the highest distinction that could be conferred upon it. Perhaps the most important testimony borne to the work and works of the school has been that of the international jury on education, at the Centennial Exhibition at Philadelphia in 1876. In awarding a medal and diploma to the school, the judges give the following reasons:

"For the extent, beauty, and value of the exhibit, and for the very important work the school has done and is doing in behalf of art education."

Such references and explanations as these would be absolutely unnecessary, and perhaps also in questionable taste, were it not for the very exceptional circumstances in which the school is placed. It is actually the only State normal art school in America; so there is nothing of a similar character here to compare it with or judge it by, and exceedingly few persons who have had the opportunity to know anything about it, or experience to qualify them to judge.

It is not to be wondered at, therefore, if people, in their absence of knowledge or misunderstanding of its origin and aims, should be sometimes misled, even with the best of motives, to underrate its importance or interfere with its usefulness.

Up to the present time there have been 201 students who have taken one or more certificates, and of these 163 are either employed in teaching drawing or remain still in the school, increasing their qualifications to do so, as the following table shows:

Total number of students holding certificates	201
Of these there are employed in teaching drawing	113
Continuing their studies in the school	50
Employed as designers, draughtsmen, &c	9
Not heard from	29

In addition to these known cases, a large proportion are employed in teaching drawing who do not make it their principal occupation, and who have not taken a certificate.

Thus, Mr. Ridler, principal of the Kingston High School, has, through his connection with the Normal Art School as a student, originated a plan of instruction for his school, which he himself carries out, and succeeds admirably in it. This is a type of many cases in which the school accomplishes the object for which it was established.

There is, moreover, a demand arising for elementary instruction in art and science, not only in Massachusetts, but throughout the whole of the United States, such as would hardly have been considered possible ten years ago. The education of all classes is now considered deficient without such instruction, and it is those branches of a useful education which have most practically assisted to make other nations wealthy and powerful. The tide of prosperity which has happily now set in amongst us will increase the demand for education in art and science, for the great need of this country is skilled and productive labor, and that is an impossibility without the skill and taste which art and science by education alone can give.

The reports relating to the Normal Art School, which are included in the Forty-fourth Annual Report of the Board of Education for the year ending June 30, 1880, are mostly taken up with the history of the transfer of the school to the "Deacon House."

The visitors speak as follows of the condition of the school.

The work of the school, it is believed, has never been better than during the past year. The ability of the teachers and their general fidelity in the class-room, joined to the enthusiasm and diligence of the pupils, have brought forth very satisfactory results. Showing marked improvement over former years, they are at the same time a prophecy of still better results in the years to come. In respect to appliances in books, models, diagrams, and apparatus generally, the school has greatly increased its facilities over the earlier years of its history, while surrounding itself with an appropriate atmosphere and enriching itself with appropriate traditions. Such treasures, visible and invisible, necessarily wanting to a new institution, since they are garnered only by time, are slowly but surely enriching the school.

As the current year opens, the number of teachers under the director, who rank together and receive substantially equal salaries, according to the time they labor, are five, namely: Misses Carter and Hoyt, and Messrs. Briggs, Fuchs, and Bartlett. In addition to these there are employed three others, namely: Messrs. Patten, Brackett, and Vonnoh, besides the curator and financial officer, Mr. Meek. All of these, it is believed, are faithful in their respective spheres.

The director's report is also largely occupied with an account of the selection of, and removal to, the new building; he also discusses industrial art education at some length.

The Forty-fifth Annual Report of the Board of Education for 1880-'81, published in 1882, contains no reference to the Normal Art School in the report proper of the board. The report of the board of visitors of the school is largely occupied with details relating to occupancy of the new building, and with explanations as to the reasons for discontinuing the evening class.

The following sentence in the report is significant, in view of subsequent events:

There had been some things in the conduct of the school which made certain changes in its personnel highly desirable. At the close of the school year some changes were made; others arose voluntarily.

Then follow details with reference to the work of industrial teachers. The report closes as follows:

The duties of the principal and of the other teachers—Mr. Bartlett, Mr. Patten, and Miss Hoyt—remain unchanged. The various subordinate instructors and employés are working harmoniously together, and, so far as depends upon them, securing good feeling throughout the school.

A. A. MINER,
CHAS. B. RICE,
E. B. STODDARD,
ABBY W. MAY,
Visitors.

BOSTON, *December* 1, 1881.

The report* of the State art director for the year 1881 treats, in turn, of the various interests confided to his charge:

The reports which I had the honor of submitting to the board for the years 1879 and 1880 were of such length and comprehensiveness of detail and general scope that I feel so full a report of this year's work is, under the circumstances, not expected, though the development of this branch of public school education has not diminished, either in its results or in the interest felt by the public.

The following is that part of the report of the director which refers to the Normal Art School. The passages of his report which relate to work in the State normal schools, and the free evening drawing classes, will appear in their proper connections.

The conclusion of the school year, at the end of June, 1881, terminated also the first year's occupancy of the Deacon House as a Normal Art School, and enables me to record the results of transferring the students to increased and more commodious premises than have been occupied in previous years.

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*Annual Report on Industrial Art Education for the year 1881, by Professor Walter Smith, State Director of Art Education, included in the Forty-fifth Annual Report of the Board of Education, of the State of Massachusetts, for 1880-'81. See pages 243-253.

The object which the legislature, by its resolve of April 13, 1880, sought to secure for the school, by its removal from 28 School street, was, to use the words of the resolve, that "*said accommodation to be in a building or part of a building which, with the entrance or entrances to it, shall be under the exclusive control of the officers of the school;*" and this condition was intended to remedy serious and proved inconveniences in the past experience of the school, arising from the absence of such control.

ADVANTAGES OF PRESENT SITUATION.

A year's experience at the Deacon House, in an isolated building exclusively controlled by the officers of the school, proved how important the condition was to insure successful administration, and the comfort and convenience of the students. The marked improvement in the character of the work produced by the students was noticed by me in my report for 1880, when we had been in the premises only three months of the school year; but it was only when that year terminated in June, 1881, that the nature of this change could be fully estimated.

The exercises in time-work wrought at the yearly examinations, and the finished drawings, paintings, modellings, and designs presented as diploma or certificate works produced during the year, entirely surpassed anything ever before produced in the school, and might be described as a transformation from twilight to daylight. The additional space and improved lighting, the convenience and personal comfort of both students and teachers, with the improvement in spirits which resulted, had borne fruits in the studies, and amply justified the removal of the school.

SCHOOL WORK SHOWN AT THE MECHANICS' FAIR.

In this connection I might refer to the exhibition of the complete course of studies as pursued in the four classes, A, B, C, and D, which was made at the Mechanics' Fair in Boston during the months of October and November, 1881. One large room was nearly filled by the works of the four classes, representing in order the four years of graded study. Part of this room was occupied by the exhibit of the industrial art work of the public schools in New Bedford. These two exhibits, which together filled the room, were the most remarkable display of pupils' work in these branches that I have ever seen here or elsewhere, and I speak with considerable personal knowledge and observation of similar displays in this country and in Europe. This result is suggestive of the practical consequences which follow in the path of systematic study, as well as the capacity of our race (sometimes doubted in the past by some, never by me) for success in art.

As a consequence of the faithful and continuous labors of teachers who have been engaged in the art school from its establishment, this result, so far as the school is concerned, ought to be recorded and acknowledged by myself, under whose direction they have worked, and who alone have had the opportunity to observe intimately the growth and improvement of the school and its students during the period covered by their engagements as instructors. This duty I gratefully perform; the more willingly because two of these instructors, Miss M. E. Carter and Mr. William Briggs, ceased their connection with the school at midsummer last, the first after eight and the second after seven years teaching in it.

Mr. R. W. Vonnoh, a student of the school, and more recently an assistant teacher in it, resigned his position in order to pursue his studies in art abroad; and Miss Dora M. Norton also resigned to accept a better appointment in the Columbus, Ohio, School of Art. Thus, of the nine teachers employed up to July, 1881, four ceased their connection with the school at that time.

By changes of duties and the increased employment of some teachers, only two new teachers were engaged in the places of those who left—Miss M. A. Bailey and Mr. A.

H. Munsell (Mr. C. M. Carter being employed for one exercise per week only); and I cannot more completely show my good feeling towards them as late students and present teachers of the school than by wishing for them success as thorough and distinguished as that which has been won for the school and themselves by their predecessors, when equal application and experience shall have been displayed and acquired by them in their new opportunities and engagements.

The attendance of the year 1881-'82, as compared with the last year, 1880-'81, is as follows:

Class.	Number of students.	
	1880-'81.	1881-'82.
A, first year	130	76
B, second year	56	58
C, third year	9	6
D, fourth year	16	12
Evening class	72	Abolished.
Total	283	152

This shows a serious decrease in numbers, but some new students may enter for the second term and make the contrast less striking, though the abolition of the evening class must necessarily reduce the total number of students for the present year as compared with the last.

THE SCHOOL AND THE LEGISLATURE.

We now approach a period in the history of the school in which its affairs were brought prominently before the public, and when its purposes and its management were the subjects of acrimonious discussion and, subsequently, of legislative inquiry.

This unfortunate episode can hardly be ignored, since it forms a part of the legislative history of the State.

Such account of it as is given in Appendix D of this volume, is largely made up of extracts from the report of the committee of the legislature, and of that portion of a subsequent message by the Governor which relates to the school. It will be seen that the majority report of the legislative committee was a full vindication of the value, purposes, and results of the school.

In view of this verdict the friends of the school and of the methods of education which it embodies, and to propagate which it was established, have good reason for gratification that, under this searching investigation, these purposes and methods were so thoroughly justified.

Whatever may be the after history of the school, the brilliancy of its first decade and the value of its work, not only to Massachusetts but to the whole country, can never be ignored or forgotten. The history of these ten years will form a lasting monument alike to the genius of Walter Smith and to the far-reaching foresight of the Massachusetts school authorities and legislators in 1872 and 1873.

As is elsewhere recorded in this volume, Professor Smith's connection with the educational systems of the State, and of the city of Boston, came to an end. After a long struggle and many futile attempts, the opponents of Professor Smith, as director of drawing in the city schools, finally succeeded in outvoting his friends in committee; subsequently similar influences prevailed in the State Board of Education, and on July 6, 1882, his duties as State Art Director and as Principal of the State Normal Art School also closed.

ADDENDA.

The annual report of the board of visitors for the year ending June 30, 1882, published in the Forty-sixth Report of the Board of Education, announces the dismissal of Professor Smith, and the appointment of a new principal, as follows:

> At the opening of the year 1882–'83 some changes were made in the corps of instructors. Mr. Walter Smith's connection with the school as principal was terminated by vote of the Board of Education, and the responsibilities of the principalship were devolved on Mr. Otto Fuchs, as acting principal. His high attainments and long experience in the Naval School at Annapolis as a teacher, and his many years of professional service in one of our largest steamship-building houses, as naval constructor, as well as his long connection with the school, enable him to discharge those responsibilities with gratifying success.
>
> Mr. Albert H. Munsell, a graduate of the school, and a young man of fine promise, was made teacher of class D in place of Mr. Patten, above mentioned. He also continues his duties as teacher of perspective and anatomy in class B. In the work of these several departments he is fully meeting the expectations of the Visitors. This added duty made necessary his resignation of the curatorship, which he had administered to the manifest improvement of the order and efficiency of the school, so far as this was dependent upon that office. Miss Emma F. Locke, a graduate of the school in 1880, was called to the curatorship, and is discharging the duties to entire acceptance.
>
> The responsibilities of the remaining teachers of the school are substantially unchanged. Miss R. L. Hoyt continues in charge of the water-color department, conducting it with her long-recognized ability and success. In the department of oil-painting Miss Mercy A. Bailey is exhibiting much power and tact, and is proving a very satisfactory teacher. Mr. Walter F. Brackett is administering his department with entire faithfulness, and his success is fully recognized. Mr. George H. Bartlett, one of the most accomplished artists in the country in his specialties, continues to do a master's work. Mr. Charles M. Carter delivers normal lectures both in the school and in the normal institutes under the direction of the Board of Education. In addition to this, he visits and assists the teachers in drawing, by lectures and otherwise, in such portions of the State as may demand his services.

The absence of any words of appreciation of the work of Prof. Walter Smith, and the report of the lectures and visits of the newly appointed normal lecturer in various parts of the State, are suggestive; but, perhaps, in view of the reports made by this committee in former years, the following statement is the most surprising:

> In respect to the interest in drawing in the public schools of the Commonwealth, the report (of the Visitor) shows that there remains much to be desired. The subject is novel to them. The methods of work, how to begin and how to go on, are little understood.

The volume does not include the report of the principal of the Normal Art School, nor that of the person to whom, as it seems, some of the duties formerly devolving upon the State director of art education have been assigned.

The report of the board of visitors briefly refers to the fact of having received such reports.

The number of pupils in attendance for the year ending June 30, 1882, is given as 171: ladies, 139; gentlemen, 32. There were 1 graduate and 55 to whom certificates were awarded, as follows: Certificates A: ladies, 20; gentlemen, 6; total, 26. Certificates B: ladies, 12; gentlemen, 5; total, 17. Certificates C: ladies, 1; gentlemen, 5; total, 6. Certificates D: ladies, 3; gentlemen, 3; total, 6. Total: ladies, 36; gentlemen, 19; total, 55.

The board of visitors of the Normal Art School comprised the following members of the State Board of Education: A. A. Miner, Charles B. Rice, E. B. Stoddard, Abby W. May, T. W. Higginson, and F. A. Walker.

NEW ORGANIZATION OF THE SCHOOL.

The organization of the school was somewhat changed. All the teachers were placed on an equality, and one was named as acting principal, the intention apparently being to more completely subordinate the management of the school to the will of the board of visitors.

This, under a new organization, and when fully understood and accepted by instructors and pupils, is merely to make the chairman of the board of visitors practically head master of the school, and, if the teachers accept their positions with a clear understanding of this, may prove advisable; but it was a very different matter to attempt to degrade the founder of the school after several years' unquestioned headship.

This is what, as appears from the legislative inquiry and from the official reports, was practically attempted in the case of Professor Smith. That he resented such treatment seems neither strange or discreditable. If he had been of such a nature as to have borne it with submission, he would have been utterly unfit for the work he was called from England to do, and which with wonderful success he accomplished.

THE NEW PRINCIPAL OF THE SCHOOL.

Mr. Otto Fuchs, who was under the new régime made principal of the school, has the advantage of having been a teacher in the school from the first, and has had the opportunity of acquiring perfect familiarity with the system and methods of Walter Smith. He now enters on his duties with the great additional advantage that there will naturally be a strong desire on the part of the authorities to sustain and develop the school and to keep it from falling below the high standard set by Walter Smith.

The school was so well established, its work so classified, and its methods so well settled, that it would seem a comparatively easy task to keep up its usefulness and its standard. It ought not to be, in this school, in the hands of his trained pupils, that Walter Smith's absence should be most missed. It will be marvellous if within a short time the loss of his strong personality, his contagious enthusiasm, his inborn leadership, is not felt disastrously throughout the public schools of Boston, and those of the State. By this sudden removal of a recognized leader, to whom all questions had been referred as they arose, whose decisions were both final and satisfactory, and who could be implicitly relied on to maintain a high standard of excellence, despite the competing claims of publishers of easy methods for teaching drawing, there was certainly reason to fear lest the comprehensive plan, embracing all the public schools of the State, which he had organized and guided, as the official head, should suffer serious injury. In the uncertain action of numerous and widely separated educational officials and teachers, unprepared for such emergencies, and each liable to be biased by personal tendencies when deprived of accustomed authorative support, there are many causes of deterioration, and Massachusetts will be fortunate indeed if her schools and her industries do not suffer.

It seems pitiful that any causes could have thwarted so promising an undertaking as was inaugurated when Walter Smith was induced to come to Boston.

HISTORY JUDGES BY RESULTS.

History will not look too closely into personal quarrels, but will sum up results, and, measuring the power of this man by the wonderful results of his few years' work, will marvel at the alleged motives that led to such a sudden ending. It has never been a boast of the good people of Northampton that the great Jonathan Edwards was driven from his pulpit there, nor will the posterity of those persons who have been, from divers causes, active in effecting the removal of Walter Smith from his several city and State offices be any more apt to regard that act as an evidence of ancestral wisdom or virtue.

Fortunately for the country, the movement so largely inspired and set in motion by the calling of Walter Smith, and so vitalized by the wonderful personality of the man, is too widely distributed and too well established to be overthrown. Its development may be retarded and restricted, but it cannot now be wholly destroyed; the most probable result will be that Massachusetts will lose the leadership which, through Walter Smith and his far-sighted supporters, she easily took and might else have long retained.

THE SCHOOL BUILDING.

When the Deacon House was taken for the school in 1880, it was leased for three years. The legislature at the last session authorized the retention of the same premises for an additional three years from the summer of 1883, and also granted a lot of land for an art school building, provided the building shall be begun within three years. The friends of the school hope through private liberality or future legislative appropriations, to obtain the funds needed to erect a suitable building.

ATTENDANCE.

During the year ending June 30, 1881, there was an attendance of 221: ladies, 178; gentlemen, 43. During the year ending June 30, 1882, there were 171 pupils: ladies, 138; gentlemen, 33. During the year ending June 30, 1883, there have been in attendance 143 pupils: ladies, 101; gentlemen, 42.

A total of 1,208 pupils have attended the school from its opening down to January, 1883. Of these 18 have graduated with diploma for full course, and 297 have obtained one or more full certificates.

PRIZES TAKEN BY THE SCHOOL.

In some of the statements of Professor Smith, to be found among the extracts previously given, he states with pardonable pride that the normal art school has never shown its work at any public contest without receiving the award of the highest prize given. The award at the Centennial, and the others given, have been previously noted. The last received was from the fair of the Massachusetts Charitable Mechanics' Association, by whom a silver medal was awarded in 1880.

NORMAL ART SCHOOL OFFICIALS FOR 1883-'84.

At the close of the school year 1882-'83 Mr. Otto Fuchs, having accepted the appointment as principal of the art schools of the Maryland Institute of Baltimore, resigned his position as acting principal of the normal art school. Mr. George H. Bartlett, long connected with the school as a teacher, was appointed as his successor.

The circular of the school for the eleventh year, 1883-'84, gives the following list of the board of visitors and teachers:

Board of Visitors, Normal Art School: Rev. A. A. Miner, D. D., Col. T. W. Higginson, Miss Abby W. May, General F. A. Walker.

Faculty and officers of the school: Mr. George H. Bartlett, principal.

Instructors: A. K. Cross, geometry and instrumental drawing, classes A and C; W. F. Merrill, freehand, light and shade drawing, class A; W. F. Brackett, architecture and perspective, classes A and C; C. M. Carter, A. M., Massachusetts, normal instruction, class A; A. H. Munsell, A. M., Massachusetts, sculpture and advanced perspective, classes B and E; Miss R. L. Hoyt, painting in water color, class B; Miss M. A. Bailey, painting in oil, class B.

Miss M. T. Jones, curator.

CHAPTER IV.

ACCOUNT OF TWO STUDENTS' ASSOCIATIONS CONNECTED WITH THE MASSACHUSETTS STATE NORMAL ART SCHOOL.

I. MASSACHUSETTS ART TEACHERS' ASSOCIATION.

This interesting association of the pupils of the Massachusetts Normal Art School furnishes at once proof of the enthusiasm with which the professors and instructors in that school have inspired their pupils, and an evidence of the practical value of voluntary coöperation among those who are pursuing the same studies and seeking the same ends. From a communication received from Benjamim W. Putnam, esq., of Jamaica Plain, Mass., the corresponding secretary of the association, the following statement of its origin and purpose is compiled. The idea of a mutual association of art teachers originated, it appears, prior to the establishment by the legislature of the State Normal Art School, at a meeting of art teachers called by Professor Smith, during the exhibition at Horticultural Hall, of the work of the industrial drawing classes of the State, held in May, 1873.

The organization of the association, by the adoption of a constitution and the election of officers, was effected in May, 1874, at the close of the first school year of the Normal Art School, by the members of that first class, the object being the general advancement of art education in America and the mutual improvement of the members.

The professors and teachers of the Normal Art School, and students who had performed in an acceptable manner one-half the work of the first year (class A) were eligible to membership, also all teachers of the industrial drawing of not less than two years' experience.

The association began its work in the autumn of 1874 by arranging for lectures to be delivered at its regular monthly meetings, and for the reading of essays by student members, upon a subject relating to the course of study of the second year (class B).

The outcome of this winter's work was a volume of 239 pages, printed in Boston for private circulation in 1875, and copyrighted by the Massachusetts Art Teachers' Association.*

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* The Antefix Papers, papers on art educational subjects, read at the weekly meetings of the Massachusetts Art Teachers' Association. By members and others connected with the Massachusetts Normal Art School. Printed for private circulation. Boston, 1875. pp. 239.

The following, from the preface, which was written by Mr. Charles C. Perkins, of Boston, a gentleman to whose intelligent efforts the recent progress of art education in the United States is largely due, gives an excellent idea of the origin and purpose of the papers which make up the volume:

> The papers here collected were written by many earnest workers in a cause which is becoming every day more important in the eyes of Americans. Knowing my deep interest in that cause, the members of the Massachusetts Art Teachers' Association have charged me with the task of writing a short preface to their volume, which I have accepted, though quite aware of its special difficulties. * * * The best preface to the volume will perhaps be the simple statement that it has been printed, not published, for the use of its authors and of students like themselves, who needed information in a compact form on a variety of technical processes. It is a student's book, intended to be useful rather than ornamental. But I hear a wide-awake critic say, "If this be so, its title is a misnomer. An antefix is an ornamental tile of marble or terra-cotta, placed on the top of a cornice, or under the eaves of a temple, or at the end of a ridge of tiling." "Quite right," I answer, "but the lions' heads carved on the upper moldings of a cornice, to serve as spouts to carry off water, were also called 'antefixæ.' They served a useful purpose like these papers, which occupy a modest place outside the temple of art, and carry off the waters of accumulated study to fertilize waste places."
>
> And now, a word about the why and how they were written. Their subjects were entered by the supervisor of the Normal Art Training School, upon the examination list for the end of the second year. The information needed by each student, being scattered in the pages of many books, could only be obtained by a great amount of reading. Time was wanting for each one to study up all the subjects, so that it was wisely decided to divide the labor by allotting one subject to one person, who, having accomplished his task, should read a paper upon it before the Massachusetts Art Teachers' Association for the common benefit. The wish was then expressed that all the papers should be collected and printed, so that they might serve a future as well as a present use.
>
> Now that the reader has learned how this book came into being, he will doubtless be inclined to regard it with interest. It is, indeed, entitled to consideration, not only because it contains a great deal of valuable and well-condensed information, but also because it is the work of men and women meanwhile laboring, under every disadvantage, to fit themselves to be art teachers. When we think of the palatial halls in the normal schools at Vienna, or of the admirably adapted rooms in which art students work in many European and English cities, with proper ventilation, good light, and plenty of space—three primal necessities, without which the best powers cannot be called into play, and know that even these are denied to the students at Pemberton Square; when we remember how their fellows abroad have not only such physical and material advantages, but that they are also surrounded with an abundant supply of the best casts, solid models, drawings, photographs, and reproductions of all kinds, and that they live where they may at any moment profit by the splendid works of art collected in such industrial museums as those at South Kensington, Vienna, Nuremberg, or Munich, and in such galleries as the Louvre, the National Gallery, the British Museum, the Uffizi, or the Pitti Palace, we wonder, not only that our Boston students have accomplished so much, but that they have anything at all. So far from apologizing for what they have not done, we are filled with admiration for what they have done, and wish them God-speed. They have proved once more the truth of that most encouraging of all Latin sayings, "Nihil est quod non expugnet pertinax opera et intenta ac diligens cura"—a saying which all know in its well-worn English rendering, "Patience and perseverance conquer all things."
>
> C. C. P.
>
> BOSTON, *June* 30, 1875.

The table of contents and the list of works consulted in the preparation of these papers, are inserted as matters of interest in themselves, and as showing the topics that come naturally in connection with the purposes and study of industrial art education.

Contents: Chapter I, The greatness of great men, Walter Smith; Chapter II, Fresco, encaustic, etc., Charles C. Perkins; Chapter III, Color, the origin of pigments and their chemical action; Chapter IV, Harmony and contrast of color; Chapter V, Harmony and contrast of color (continued); Chapter VI, The application of principles of design to cast-metal objects; Chapter VII, Design as applied to wrought metal; Chapter VIII, Design applied to carved objects; Chapter IX, Design applied to printed fabrics; Chapter X, Principles of design as applied to woven fabrics: Colored materials; Chapter XI, Flat or surface decoration; Chapter XII, Water-color painting; Chapter XIII, Tempera painting; Chapter XIV, Fresco painting; Chapter XV, Oil painting; Chapter XVI, Techinal terms; Chapter XVII, Structural botany; Chapter XVIII, Botany as applied to industrial art; Chapter XIX, Application of ornament to industrial purposes; Chapter XX, Ornament as applied to industrial purposes; Chapter XXI, Reproductive processes; Chapter XXII, The application of photography to engraving; Chapter XXIII, Glass: Cast, cut, and engraved; Chapter XXIV, Pottery and porcelain; Chapter XXV, Historical ornament; Chapter XXVI, Historical ornament: Middle-age styles; Chapter XXVII, Historical ornament (continued); Chapter XXVIII, Historic schools of painting down to the seventeenth century; Chapter XXIX, Historic schools of painting (continued); Chapter XXX, Charcoal drawing, William R. Ware.

Some of the authorities consulted in the preparation of these papers: The Grammar of Ornament, by Owen Jones; Polychromatic Ornament, by Racinet; Epochs of Painting and Analysis of Ornament, by Wornum; Vasari's Lives; Kügler's Geschichte der Kunst; Field's Chromotography (old and new edition); Ure's Dictionary of Arts and Manufactures; Masury's Manual of Painting; Dresser's Principles of Decorative Design; Principles of Design, by Garbett; Art Education, by Walter Smith; The Works of Ruskin; Chevreul on Color; Chambers's Enclycopædia; Scott's History and Practice of the Fine and Ornamental Arts; Wonders of Engraving, by George Duplessis; the World of Science, Art, and Industry, 1853; the History of Lace, by Mrs. Bury Palliser; Chefs d'Œuvre of Industrial Art, by Philippe Burty; Fine Art: a Sketch of its History, etc., by M. Digby Wyattt; Dictionary of Greek and Roman Antiquities; Iconographic Encyclopædia of Science and Art, by J. G. Heck; the Report on Fresco Painting to the Commissioners of Fine Arts, by Charles H. Wilson; Mrs. Merrifield's Art of Fresco Painting; D'Anver's Elementary History of Art; Timbs's Painting and Progress of Art; Goodwin's Mural Decoration; A Treatise on Painting, by Cennino Cennini, translated by Mrs. Merrifield; Scott's Half Hour Lectures on Art; Redgrave on Color, etc.; Hints on Household Taste, by Charles L. Eastlake; Metal Work, by M. Digby Wyatt.

From the subjects of the essays, it will be seen that they are likely to be of interest and value to all engaged in the study or practice of industrial art, while the list of the works consulted in their preparation gives some idea of the difficulty that would be experienced by persons in search of similar information from the original sources, who have not access to large libraries.

The great scarcity in this country of art books, both for study and reference, was fully appreciated by this association, one of whose objects was to encourage the reprinting, translation, and publication of such books. A second volume of "Antefix Papers" was announced to be issued at the close of the season of 1875–'76. It would seem desirable that the two volumes should not be privately printed, but should be published at such a moderate price as would insure their general circulation among industrial art teachers and students.

The association, which numbered seventy-five members, desired correspondence and exchange of publications with kindred societies.

The following persons were chosen as officers of the association for 1875–'76: Mr. Charles C. Perkins, president; Mr. A. Hun. Berry, vice-president; Mr. F. G. Parker, recording secretary; Mr. Benjamin W. Putnam, corresponding secretary; Mr. H. H. Kimball, treasurer; Miss L. A. Dudley, auditor; Miss C. Nolan, librarian. Executive Committee: Leslie W. Miller, E. Rose, Miss H. J. Merritt, Miss E. F. Locke, Miss H. W. Avery. Membership Committee: Mr. M. J. Green, Mr. E. C. Colby, Miss M. E. Johnson, Miss M. Mansfield, Miss R. L. Hoyt.

ADDENDA.

Owing to various causes this interesting association had but a brief existence. It was natural that the earlier classes of the Normal Art School should have been somewhat exceptional; the members attended because they were especially eager to learn, not because it was in the regular routine of a fixed course. These first pupils, too, were soon scattered, because their services were sought as teachers elsewhere, and they each became themselves centers of influence in aiding the advance of the new movement, in which many of them have since become recognized leaders.

There were, however, two other causes, which accompany the progress of successful undertakings, in which the very victories achieved render needless the instrumentalities at first so essential.

When the Normal Art School began—in cramped rooms, with no library and with scanty appliances—it was only by the combined enthusiasm of teacher and pupils that these serious hindrances were overcome. How successfully has been told in the preceding pages. In this effort the mutual self help organized by the students in their association was admirably designed and effectively carried out, as the first volume of Antefix Papers abundantly shows.

Better accommodations, additional appliances, and a wider diffusion of information about art matters generally and industrial art particularly, made the later students far less dependent upon such aids, and so, if for no other reasons, such an association would naturally appeal less directly to their interests; but the withdrawal, at such an early period, of those members whose zeal, self-sacrifice, and industry had made it possible, is quite enough to account for the ending of an institution of this class that has not had time to become rooted in the traditions of a school or college.

The increased occupation of the pupils in making preparation for the showing at the Centennial at Philadelphia was sufficient reason for the decrease of work and interest in the association during the second year. The allotment of papers for this year had been regularly assigned and a second Antefix volume was anti

For the following account of the second year's work and of the final closing of the association I am indebted to the courtesy of Mr. A. Hun Berry, of Boston, to whose efforts the publication of the volume of antefix papers was largely due; who writes under date of March 29, 1884, as follows:

In answer to your letter of the 18th instant, in relation to Massachusetts Art Teachers' Association, I have to say that the last meeting recorded by the secretary was held June 8, 1877, at which it was voted "that each member make four sketches before the next regular meeting," which was to be in the month of October following. There were a number of sketches made and sent in for exhibition under the above vote, but the members had become very much scattered in the mean time, and it was found to be impossible to get a quorum. After several ineffectual attemps it was abandoned.

* * *

The last report of the board of government of the association will give you an idea of the work done by it from the time of the completion of the first Antefix Papers. A list of the papers to go into a second volume I will send you if I can find it; it is not at hand.

"During the past year (1876) the general work of the association has been much interfered with by the consolidation of work in the normal art school" [the work of classes C and D being taken by what would ordinarily have been class C.—Berry], it being desired by the director of the school to exhibit at the Centennial Exhibition at Philadelphia the full course of study in the school. Classes B, C, and D were much occupied in their works, and their time was so taken up that the meetings of the association were in a measure neglected, and the programme of essays as laid down by the executive committee was not fully carried out. Only three papers of the list of subjects were read. * * *

These papers are considered of value to the members of the association and of the normal art school, and the subjects are selected with reference to the wants of the students in their after work, as well as in their preparation for the examinations of the school.

In addition to the papers assigned to the members of the association who are members of the school, upon invitation of the association, a very instructive course of lectures, illustrated by drawings and photographs, on the history of art, was arranged to be given by your president, Mr. Charles C. Perkins, but, owing to many duties connected with the Centennial Exhibition, only five lectures of the course were given, but it is hoped that they may be continued this year until the course is finished.

Prof. William R. Ware also gave an interesting lecture before the association, at the Institute of Technology, upon stained glass, which was illustrated by specimens and drawings.

To each of these lectures friends of members were invited, and it is suggested that the invitations be made more general this year and include all readings by the students, as well as by others invited to address the association.

Your board have called several meetings of the association in connection with the school, it being thought that the objects for which the meetings were called could be more expeditiously accomplished under its organization than if the meetings should take the time necessary to organize. In all meetings thus called and organized, everything seemed to be very harmonious.

It has been the aim of your board to co-operate with the government of the school in all matters pertaining to its welfare, and the board is under obligations to the directors for many valuable suggestions in regard to the assistance of students in their work.

The preparation of lectures for the instruction of pupils in the different schools is one of the many duties a student of the art school is expected to undertake, and the opportunity given by the readings of the association seems to be one that should not be overlooked, and it is hoped that more will avail themselves of the opportunity this year than there did year before last, when so many papers were prepared and read.

Since the last annual meeting there has been added to the library a number of volumes on subjects connected with our work, besides reports of various other associations and schools, as well as of the Bureau of Education of the United States."

What has been done of late years I am unable to say. There was formed a club in the school, called the A, B, C, D Club, but it appears to be more of a sketching and social club than anything. It took its name from the names of the four classes in the school.

There is also a convention of art teachers each year, at which papers are read and discussions take place, but I know of no association which takes the place or attempts the work of the old M. A. T. A. Its nucleus of a library is at the normal art school, and is in use there.

II. THE INDUSTRIAL ART TEACHERS' ASSOCIATION.

Some years subsequent to the demise of the Massachusetts Art Teachers' Association, as recorded in the pages immediately preceding, a convention of the teachers of industrial drawing in Massachusetts was called to be held in Boston, December 29, 1881.

This meeting was so successful that it was resolved to hold a similar one in 1882, which was done. At this meeting a permanent organization was effected, with a view to perpetuate this annual coming together of the teachers, and the Industrial Art Teachers' Association was organized by the adoption of a constitution and the election of officers.

I am indebted to the courtesy of Mr. Munsell, secretary of the association, for such information as is here given; as yet there are few printed records of the new society.

Article 1 of the constitution defines the name of the association and the qualifications of its members, who shall be teachers of industrial drawing.

Article 2. It shall meet once a year at such time and place as may be appointed by the executive committee, and for the purpose of comparing notes as to plans and methods of instruction, by the reading of short essays, explanations and illustrations of personal experience, and discussions, etc.

It will be seen that the general purposes were the same as those of the former association. The following is the programme for the convention of 1882:

Convention of Teachers of Industrial Drawing, Boston, Thursday, December 28, 1882.

[Boston Art Club, Dartmouth street, entrance near Newbury street.]

PROGRAMME.

Morning.

Hour.	Subject.	Time.
9. 30–10. 00	Opening exercises	30 minutes.
10. 00–10. 30	"The industrial arts: their relation to the fine arts," Miss Rissie L. Hoyt.	30 minutes.
10. 30–11. 10	Discussion	40 minutes.
11. 10–11. 20	Recess	10 minutes.
11. 20–11. 50	"Drawing in public schools," Mr. Charles M. Carter	30 minutes.
11. 50–12. 30	Discussion	

Convention of Teachers of Industrial Drawing, Boston—Continued.

Afternoon.

Hour.	Subject.	Time.
2.00-2.30	"Instruction in drawing in the normal schools, and preparation of students to teach the same," Mrs. Emma F. Bowler.	30 minutes.
2.30-3.10	Discussion	40 minutes.
3.10-3.40	"Practical perspective," Mr. Albert H. Munsell	30 minutes.
3.40-4.20	Discussion	40 minutes.
4.20-4.30	Recess	10 minutes.
4.30-5.00	Reports of committees and election of officers	30 minutes.

Evening.

[Art Club Rooms.]

7.30. Supper and social gathering.

The convention held last year having proved so successful and instructive, the executive committee have deemed it expedient to again hold a convention at the above named time and place, for general interchange of ideas, and permanent organization of the association. All interested in art education should attend.

The paper on "The industrial arts: their relation to the fine arts," by Miss Hoyt, was so well received by the association that it was ordered printed, and has been issued in a neat pamphlet of 14 pages, which on perusal will be found to fully justify the action of the society in printing it.*

Twenty-five members joined the association and the following officers were elected: Mr Henry Hitchings, president; Mr. Walter Perry, vice-president; Mr. Albert H. Munsell, secretary and treasurer. Executive Committee: Mr. Otto Fuchs (one year), Miss R. L. Hoyt (two years), Mr. E. C. Colby (two years), Mrs. E. F. Bowler (three years), Mr. Eben Rose (three years).

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*"The industrial arts: their relation to the fine arts." Paper read before the Industrial Art Teachers' Association, at the Boston Art Club Gallery, Thursday, December 28, 1882, by Deristhe L. Hoyt, of Massachusetts Normal School. Printed by vote of the association. Boston: Frank Wood, printer, 352 Washington street. 1884. pp. 14.

CHAPTER V.

OFFICIAL HISTORY OF DRAWING IN BOSTON PUBLIC SCHOOLS.

The introduction and development of the study of drawing in the public schools of Boston, Massachusetts, as recorded in the annual reports of the city educational officials, beginning with those of 1870.

INTRODUCTORY.

Although in the historical account of the action of the educational authorities of the State of Massachusetts, in promoting the introduction of the study of drawing in the public schools, which is given in the preceding pages of this Report, the fact that the movement was, in its first inception, due to the enterprise of the school authorities of the city of Boston, acting in conjunction with certain public-spirited private citizens, has been incidentally stated, it is nevertheless due to the historic verities of a movement of such importance, that some record of the part taken by the several citizens, whether in their official or private capacity, should be here preserved; while, to the citizens and school officials of other communities, who may desire to secure similar opportunities for their own school children, or adult artisans, a brief *résumé* of the situation and of the methods adopted by the Boston authorities cannot fail to be of interest, and, doubtless, of practical utility. With this view the following abstract from the annual reports of the school committee of Boston has been prepared.

CONTENTS OF THE ANNUAL REPORTS.

The annual report of the school committee of the city of Boston is issued in a well printed octavo volume, containing usually not more than 500 pages. The volume opens with the general report of the committee, rarely exceeding 50 pages; brief reports of the several subcommittees, each in charge of the Latin and High Schools, follow, then come the semi-annual reports of the city superintendent of schools, with statistical tables; then reports of standing committees, such as the committee on music, the committee on drawing, the committee on industrial education, etc., etc. A report of the annual school festival, with lists of all pupils who have taken medals, prizes, and diplomas of graduation follow. There are also lists of all the school-houses, plans and description of new school-houses, with accounts of the dedication exercises; an alphabetical list of the school districts, with names of district school committees and of all the teachers; a list of the city school officials ends the volume. The report proper of the school committee seems to be made directly to the citizens, the superintendent's reports are addressed to the school committee.

In 1870, with which report this abstract commences, the school committee consisted of six members from each of the sixteen wards of the city. The mayor and the president of the common council are *ex officio* members of the school committee, the mayor being the president of the board. There were thirteen standing committees; these were each composed of either six or seven members.

VALUE AND INTEREST OF THESE REPORTS.

A careful perusal of any one of these volumes is calculated to impress the reader with a lively sense of the importance of these schools in the estimation of the citizens; while the reports of so distinguished an educator as the Hon. John D. Philbrick, for many years the city superintendent, or of his successor, Superintendent Eliot, are full of valuable suggestions, and are worthy the thoughtful consideration of all who take interest in the education of the people.

Strange as it may seem in this era of the daily newspaper, when yesterdays are obsolete, these early reports, beginning with the year 1870, are still interesting reading in this year of 1883; for some of the very topics that are now occupying the attention of educators and of the public, are thoughtfully discussed in that first report, viz, the "Introduction of drawing," "Industrial schools," "The Kindergarten school," "Sewing in the schools," etc.

THE SLOW AND COSTLY ADVANCES OF CIVILIZATION.

In reviewing the educational history of the past, as recorded in official records and reports, and in the addresses and books of earnest educators, we are impressed with the slowness of development and the vast amount of effort put forth, often apparently in vain, by the pioneers in educational work.

Again and again, in these studies of the past, are we reminded of Lowell's lines, suggested by seeing, in the old church at Florence, the long-faded frescoes of Massaccio, who, himself the inspiring precursor of Raphael and Angelo, is unknown save by these perishing yet precious fragments:

> "And who were they," I mused, "that wrought,
>   Through pathless wilds, with labor long,
> The highways of our daily thought?"

While thus lost in meditation, suddenly, from the bells in the Campanile, there floated down, mellowed by distance, the musical tones announcing "the hour of Ave Maria," the self-same strains that, in one of his tenderest passages, Dante feigns the homesick sailor to hear "sounding from far," their notes, recalled to our poet the unknown martyrs whose death for their faith, centuries agone, had made possible the uplifting of those bells in the tall church tower.

Out clanged the Ave Mary bells,
  And to my heart this message came;
Each clamorous throat among them tells
  What strong-souled martyrs died in flame
To make it possible that thou
Shouldst here with brother sinners bow.

This leads him to pay tribute to all those unknown, forgotten workers—

Henceforth, when rings the health to those
  Who live in story and in song,
O nameless dead, who now repose
  Safe in oblivion's chambers strong,
One cup of recognition true
Shall silently be drained to you!

It is one ot the penalties of success in these struggles for the uplifting of the race that the advance once secured, the victory and the victors are speedily forgotten; how rapidly, for instance, our anti-slavery literature grows obsolete!

The new generation, born to the improved conditions secured by the strenuous struggles and costly sacrifices of its progenitors, accepts its surroundings as a matter of course.

Thoughts that great hearts once broke for, we
Breathe cheaply in the common air.
The dust we trample heedlessly
Throbbed once in saints and heroes rare,
Who perished, opening for their race,
New pathways to the commonplace!

Browning, also, in an indignant outburst of sarcastic song aimed at a whole school of modern poetry, portrays a not uncommon incident; some forerunner discovers a new province of literature, a new world of song, and flushed with his discovery meets, as many a returned wanderer in strange lands has done, with chilling reception. Later, others find honor and fame in simply echoing the songs he sung, while carefully ignoring the earlier singer. Of these, Browning pertinently asks:

Who fished the murex up?
What porridge had John Keats?

So, when once taught the secret, how easy seems the performance. "How little credit he deserves who only knew how to teach us such an easy thing," chatter the ingrates, when once the master has departed.

The stories of the unsuccessful efforts of early American educators to introduce a system of industrial art training, as recorded in a previous chapter, and the comments that begin to be heard on his work here, now that Walter Smith has returned to England, suggest these reflections.

In view of what ambitious or conceited persons, who first learned from Walter Smith "how to do it," may have said, or may hereafter say, in regard to the importance or the character of his work in the United States; the account of the condition of industrial art education in Boston, stated by those best qualified to judge, as given in the official reports of the educational authorities of that city, at the time when the first overtures were made to him "to come over and help us," with a brief history of the methods he adopted and the success he achieved, are appended. From these official records the arduous nature of his work and the completeness of his success can be learned.

It will ill become those who have profited by his labors, or who reap with joy the harvest he sowed in pain, to carp at his methods or to decry the excellence of his system. That, building on his firm foundations, they may rear more splendid superstructures, is doubtless true; and the old figure of the ability of the dwarf when standing on the shoulders of the giant, to see farther than the giant himself, also remains true; but let not the dwarf, therefore, imagine himself a giant, or underrate the importance of the position he could not have unaided attained; lest thereby, he may invite unpleasant attention to his own pigmy stature and individual insignificance!

THE RECORD OF THE OFFICIAL REPORTS.

In the Annual Report for 1870 the committee thus enunciate their conception of the purpose of education:

> The legitimate object of education is to prepare men for their duties and their destiny. It does not consist in the mere acquisition of knowledge, but in the development and training of all the faculties.

This seems sufficiently comprehensive to include the subject of industrial education in all its departments. Later in the report, under the special head of "Industrial schools," they say that—

> Every school should be, to a greater or less degree, an industrial school, that the children of all classes may be instructed in the utilities of life, and be taught to look seriously at work, and regard it, when worthily performed, as honorable in all conditions of society. The intention is to give such instruction in the arts of useful employment as will enable them to meet the duties and emergencies of life, and be helps and not burdens to themselves and others when adversity comes.

In his own report Superintendent Philbrick thus treats the subject of drawing:

> This branch has had a place in our programme of studies for many years, but its progress has been unsteady, uneven, and unsatisfactory. The time has at length arrived, apparently, when it is to be placed on a proper footing in all our schools. Public opinion in this community has been turned to the necessity of systematic instruction in drawing in public schools, by the results of instruction which have been witnessed within a few years in the Institute of Technology, by the act of the legislature, approved May 16, 1870, requiring instruction in industrial and mechanical drawing, by the vigorous movement recently made for the establishment in this city of a museum of fine arts, and by the reports brought home to us from the Universal Exposition at Paris, in 1867, showing the deficiency of art education in America.

It is now understood by well-informed persons that drawing is an essential branch of education, and that it should be taught to every child who is taught the three R's. It is indispensable as an element of general education, and it lies at the very foundation of all technical education. It is difficult to conceive of any human occupation to which education in this branch would not prove beneficial. Everybody needs a well-trained eye and a well-trained hand. Drawing is the proper means of imparting this needed training. Drawing, properly taught, is calculated even more than vocal music, perhaps, to facilitate instruction in all other branches of education.

To promote the progress of drawing in our schools there has been needed a new instrumentality; I mean a standing committee on this branch. Such a committee has at length been appointed, and it has taken hold of the work assigned it with very gratifying vigor and courage. The valuable report presented to the board by that committee will, I trust, be reprinted with the annual report of the board.

Our success, after many experiments, in conducting the instruction in vocal music has taught us how to manage the teaching of drawing with efficiency and economy. It is evident that the actual class teaching in drawing, as well as in music, can be given by the regular teachers. They will, of course, need instruction and competent supervision and direction. This service can be performed by one able drawing master, with a small corps of assistants. This course, which is the course recommended by the committee, is not only the best for the pupils, but it is best for the teachers; for, in preparing themselves for teaching drawing, their general ability and happiness will be promoted. What teacher would not gladly hasten to avail himself of the gratuitous instruction of a first-rate art-master as a preparation for instruction in drawing in his own class?

It will be seen that both the committee and the superintendent, are convinced that the time has come for some definite action modifying the form and character of public-school instruction, and that they have a very clear comprehension of the nature of drawing and of its importance as an essential element of such industrial training as it is desirable and possible to give in the public schools.

It is reserved, however, for the report of the "Special Committee on Drawing" to record the exact situation of the schools in regard to that study, at a time just before the calling of Professor Smith to America:

Under the order of the board of July 12, 1870, the committee on drawing present the following report:

The attention of the people of this State has been recently called to the great need of more extensive and more suitable instruction in drawing. Those who have the true interest of free public education most at heart see that there is a great deficiency in our curriculum, and while the State authorities have made full instruction in mechanical drawing obligatory on all towns of more than ten thousand inhabitants, our own city has gone further, and proposes to instruct all the children intrusted to her care in the foundations of that art, of which mechanical drawing is a very small part.

HOW DRAWING WAS THEN TAUGHT.

When this committee was appointed, the programme of studies in the schools of the first twelve wards of this city included drawing. Roxbury and Dorchester also gave instruction in drawing in the higher schools. The Boston programme was well so far as it went, but it was not followed. In many of our schools no time was given for even the very mechanical exercise the rules prescribed. There was a general feeling among the teachers that drawing was simply an accomplishment for those whose leisure might be amused by its exercise, and that the large majority of the children in their charge would be better off without it; and with this impression, joined to the knowledge that there were no examinations or requirements in this department for promotion to higher schools, it is not strange that the time, already insufficient, was found too short for drawing. In some schools the routine of taking out the books, allowing the children to play with pencil and paper for half an hour, and then putting away the result, often without examination, was virtuously performed. In a few schools instruction, and good instruction, was given by the master and his assistants but this was very exceptional.

In the high school, Mr. Henry Hitchings had recently been appointed instructor, and he was doing a capital work, but mostly on raw material, for his pupils have had little practice when they come to him. In the girls' high and normal school and training school, Mr. William N. Bartholomew, with Mr. Hitchings as assistant, gave his whole time very successfully to the work. In the Roxbury High School, Mr. B. F. Nutting was instructor, and Miss Mercy A. Bailey had charge of the higher grade Dorchester schools. In the Boston primary schools, the "Boston slate," so called, was used as an amusement rather than for instruction, and in the Roxbury and Dorchester primary schools no system was used. In the grammar schools of the city proper, Bartholomew's series of drawing books was ordered by the rules and regulations, while in Roxbury, Mr. Nutting's cards or models were used, and in Dorchester, drawing from models or objects.

UTTER WANT OF SYSTEM.

There was nowhere any system from the primary to the high schools, and in the three sections of the city different methods were in vogue in the intermediate and upper schools. As some of the grammar schools practiced drawing while others wholly neglected it, the classes in the high and normal schools, composed of pupils of all these, were on very unequal footing, and the duties of the instructors were made much more laborious and unsatisfactory. Work which should have been done in primary and grammar schools had to be done at the end of the course, when it could not be done well, and when the time of both teacher and pupil was already fully occupied. Perhaps of all the studies of our public schools, drawing exhibited the most feeble results.

Your committee were convinced that the work of instruction must be done, if at all, by the regular teachers, under such general superintendence as would be required, but here they found their first difficulty. Very few of the teachers were skillful in the use of either pencil or crayon, and fewer still had correct ideas of the objects aimed at. To many, the only result to be attained by the most diligent and careful practice was simply the production of a pretty picture; in other words, the contents of the portfolio rather than the new powers of mind were to reward the successful pupil in drawing. The teachers of our public schools, however, are never backward in adopting new ideas or methods when they are convinced of their value, and in the present case they have not fallen below the requirements of their committee; on the other hand, they have, almost without exception, welcomed and encouraged the new life we were endeavoring to infuse into this branch of instruction. So far as the city proper was concerned, the professional teachers already in the service were deemed sufficient to exercise the needed superintendence.

HOW DRAWING SHOULD BE TAUGHT.

Then arose the question how should drawing be taught, and this your committee have endeavored to answer by several months of experiment in both grammar and primary schools. Were the problem confined to a single school, composed of pupils devoted to the purpose, it would be comparatively easy to mark out a course of instruction which would insure good results in most cases. In Boston, however, we have thirty thousand pupils of both sexes, various ages, and from almost every grade and nationality. Every teacher is required to care for at least one-third more pupils than he or she can properly attend to, and the work must be done in rooms generally unsuited for the purpose. Probably one-half of the school-rooms in Boston are badly lighted or contain desks placed in an improper direction towards the light.

With all these drawbacks, the evident enthusiasm of both teachers and pupils gives every encouragement of success, and if the work can be properly divided between the primary, grammar and high schools, we feel that our pupils will take higher rank in all studies where training of the powers of observation is demanded.

Our city has been rightfully awarded the first place in true art and literature on this continent, but our schools must maintain it; and while we are proud of our art museums and libraries and cabinets, we must carefully educate those who are to use them. A grand collection of statuary and painting is of little use to the blind, and such are our uneducated people. Let all the children be educated, then, to see, enjoy, and draw substantial benefit from our art treasuries. Our public gardens might then exhibit less bad taste, our public buildings be more pleasing to the educated eye, and public taste generally elevated.

We feel that with the primary scholars lies our most important work; their hand is flexible, their eye is quick, their perceptive faculties are all eager to be trained, and the progress they make, whenever a proper system is pursued, shows conclusively that all who can learn to write well can learn to draw. We call upon our teachers to make special effort in the education of the youngest pupils in drawing.

INSTRUCTION FOR TEACHERS.

Thinking that the proper education of the teachers might require more time than the special instructors could give, Mr. C. C. Perkins was consulted, for his well-known interest in art education as well as his reputation in all art matters, and his familiarity with the art schools of Europe, promised the best advice, and from him the following letter was received:

"NEWPORT, *September* 6, 1870.

"DEAR SIR: I am much flattered by your request that I would give you my opinion upon the best way of rendering instruction efficient in the public schools, and I gladly seize the opportunity thus afforded of bringing a scheme before the committee of which you are the chairman which I think offers a fair chance of accomplishing the object in view.

"It is as easy to teach children to draw as it is to teach them to write, provided they are taught in the right way, upon a system whose excellence has been fully tested. If, however, they are put under teachers who cannot guide them with a firm hand because they themselves have no fixed principles of instruction, no good result can be expected, and the children's time is wasted in futile effort. The first object, then, is to have the teachers taught by a thoroughly well educated master, so that, having learned his system, they may become competent to instruct in it. You naturally ask, where is such a person to be found? To which question I answer, among the graduates of the normal school at South Kensington, whose ability to teach is certified by as many as five or six diplomas. These diplomas are given to them by the science and art department, whose office it is to supply the provincial art schools throughout Great Britain with teachers of whose competency it is thoroughly satisfied.

"Being myself very well acquainted with several gentlemen at South Kensington, and especially with Mr. Henry Cole, the superintendent, I some months ago wrote to ask him what salary would be required by a first-rate teacher who might consent to come to Boston and direct a normal art school. The following passage from his answer seems to me to set the matter in a very clear light: 'I quite agree with you that before you can organize art schools, you must have good teachers. To organize a system you want a man who possesses administrative power, besides technical knowledge of drawing and painting. I do not think you can get a man as good as he ought to be unless he were guaranteed a minimum of 500*l.* a year, with a prospect of earning more if he succeeded. I think you might get a fair teacher for drawing and painting at a guaranteed minimum of 200*l.* a year, with a prospect of increase according to success.' Mr. Cole sent me with his letter a couple of prospectuses of the Kensington Drawing School, one of which I enclose with this letter. Mr. Cole considers that the success of this school would be much imperilled if the head master were permitted to seek his remuneration outside the school, but as what we want for such a man in Boston is not exactly what is wanted in England, I should even advise that at least in the beginning he should be allowed to supplement his salary by teaching in private schools, if any such desired to benefit by his instruction, and also by giving private lessons.

"The question now arises as to what certainty the committee on drawing would have, in case they decide to send for an English master, that the person sent would be in all respects satisfactory. To this I answer that my long acquaintance with Mr. Cole and his able assistants, and the interest which I have heard them express in the prospects of art in the United States, warrants my belief that they would take the utmost pains to select the right person, if I requested them to take the responsibility. So fully am I convinced of this that I will undertake to *procure* the necessary models, such as are supplied to art schools from South Kensington, and *give* them to the committee, to be placed in such a room as they shall designate to be used as a drawing school, provided they will authorize me to communicate with Mr. Cole on the subject, and to ask him to send a competent teacher to Boston who may be made head master of drawing in the public schools, with a sufficient salary.

"Boston is justly proud of her really palatial school-houses, and no city in the world surpasses her in liberality in connection with education; but in this matter of art instruction she is even behind New York, Philadelphia, and Baltimore, in all of which cities there are well-supported schools of design. Hoping that the time is not far distant when through the agency of a first-rate teacher she may not only surpass them, but even be able to supply them with teachers of a high order, I remain,

"Yours, very truly,

"CHARLES C. PERKINS.

"W. T. BRIGHAM, Esq."

THE COMMITTEE APPROVE MR. PERKINS' SUGGESTIONS.

This letter of Mr. Perkins suggests a radical change in our normal instruction, but one which seems absolutely necessary if we wish to take any high stand in the movement now making itself felt through the land. We have had no system; our teachers have not been instructed, and the work must now be commenced. Shall we have a plan, or shall all be done at random? Will it not be better to invite such a teacher as we have not in this country to open here a school at which all our regular teachers shall have gratuitous instruction, and other teachers may become pupils at some fixed rate? The labor of instructing our large corps of teachers is no light one. It is harder in some respects than the instruction of the children, but when once accomplished in the right way, its influence pervades all our schools. The State requires us to give instruction in drawing; let it be the best that our country can afford. We are learning a new language in the United States, and we must learn it well, beginning with our very primary schools.

Without an instructor for the teachers, we can only take a secondary rank among our cities, and no member of this board will assent to that. Until such a system as that proposed by Mr. Perkins can be inaugurated, the following course may be pursued.

The great success which has attended the efforts of the Committee on Music, to make each teacher a competent instructor in that art, convinces us that we must have the same system in drawing; and that those teachers who have not fitted themselves for this duty may have a suitable opportunity to do so, the regular instructors in drawing will meet them in evening classes during the winter. In this way the six hundred or more rooms will receive the instruction of our accomplished teachers of drawing, and in a comparatively short time our corps of drawing teachers will be identical with the regular educational force of the city. New teachers should, of course, be required to exhibit some knowledge of this branch. It is hard to make further calls upon the already well-occupied time of our teachers, but a few evenings for a few months devoted to learning the methods of teaching drawing will be of so much service to themselves as well as to their pupils, that they will doubtless willingly make the sacrifice.

Possibly the new art room of the Girls' High and Normal School might be used for the evening lessons of the teachers. If not, other rooms suitable for the purpose can be provided.

If suitable arrangements can be made, afternoon classes will be formed, and one or two teachers from each school combine in classes for one month, then others, and so on until the whole number in all the schools are instructed. One month of faithful study two afternoons each week would be all the time most of our teachers would require. Attendance on these exercises would be compulsory unless teachers can show to the satisfaction of the drawing instructors that they are capable of teaching drawing without such assistance.

The conviction that in this emergency the experience of other nations must be availed of, is clearly held by the committee; while a perusal of the letter of Mr. Perkins, which is included in the report, shows that to him is due the suggestion, that application be made to the South Kensington authorities for such a qualified instructor as is needed to plan, initiate, and perfect a practicable scheme for the introduction in the public schools of the training desired.

FREE INSTRUCTION IN DRAWING.

After quoting the law of 1870, the committee proceed:

Under this it will be necessary for us to adopt some plan of instruction not included in the regular course of our schools. At present no instruction in mechanical drawing, so called, is given to our High schools, the only ones probably where the age of the pupils would demand this instruction, and it would be difficult, if not impossible, to find time for proper and sufficient practice until the preparatory schools have done their part of the work. We would recommend, therefore, that the requirements of the statute be met by establishing three evening drawing schools in convenient parts of the city, where drawing only is taught, and where the large number of young men whose employment prevents their attendance at the day schools may obtain what they so much need and are so anxious to receive.

It is known to the committee that the Christian Unity Society have for several years established evening classes in drawing, which many of our teachers have attended with profit, and should this Board see fit, perhaps it might be advisable to adopt in some measure this established school, paying simply for the instructor and material, while the society furnish rooms, light, and heat.

Whenever these schools are established, they should be under the care of competent instructors, and be open at least two evenings each week, from November to May. The number of pupils will doubtless be large, and will require the constant care of several instructors in each school, but the benefit such instruction will confer on the young men and women of our city will be very great, and will before long be felt in in all our manufactories.

Instruments and paper must of course be furnished in these schools, but the former will be permanent, and the paper for use is by no means costly. In the early classes only pencil, rubber, and paper will be required, but mechanical drawing calls for instruction in the use of instruments.

After describing the slate drawing in the primary schools, the higher schools are considered:

MODELS FOR THE GRAMMAR SCHOOLS.

Our grammar schools have been using for some years the Bartholomew series of drawing books, principally numbers one, two, and three. This committee found these in use when they were appointed, and have not seen any reason to displace them. They feel, however, that their cost is a serious objection, and it should be lowered. We also feel that there are deficiencies in these books, but after a careful examination of other models, do not find any other practicable series which would be better for our grammar schools. If the work of the primary school has been properly done, these books will give good results in the higher schools, but we advise the careful use by the teacher of the manuals prepared for each book and already distributed through the schools at the request of this committee.

Various plans have been tried in these schools; dictation exercises have been given in accordance with Miss Stickney's suggestion, and always with good results; they keep the attention constantly exercised, make the teacher clear and careful in her directions, and give meaning and value to every line. These exercises must be confined to simple diagrams or figures, and the pupils of course draw without models. Then large charts or object lessons have been copied both on slate and on black-board; maps have been drawn, and again the pupils have been told to draw lines of one, two, or three inches, without measuring, in order to accustom them to correct ideas of size. Simple solid models have also been used to some extent, but it is impossible to give a fair view of any object to all the children in a room, and if the object be repeated for each desk the light and shade will be totally different in different parts of the room, and the teacher must be everywhere in order to give sufficient instruction. It would be well, however, to encourage the copying of familiar objects as soon as correct notions of lines and distances are acquired.

Copies of artistic ornamental design should be used as models more than at present, and if the child is to draw a vase, let it be the most beautiful form art has produced, that beauty may become familiar and grow into the child's nature. Instead of a meaningless tracery of lines, let designs of acknowledged merit be substituted.

At the end of the grammar school course the pupils may, if they see fit, enter the Lowell Institute classes for drawing from the human form, the most noble of all models; or, should they enter the high schools, they may pursue the lessons for that grade. Should they go no further, they will have the power, if they have done their duty, to do any of the work required of architect, engineer, or ordinary draughtsman, with little practice in the technicalities of such divisions.

DRAWING IN THE HIGH SCHOOLS.

At present the work of both primary and grammar schools must be done in our high schools, for drawing has been so neglected, and has not been required for admission. If the work of the lower schools has been well done, the pupils are now prepared to study perspective, and practice in landscape sketching and the use of instruments in mechanical and architectural drawing. In the High and Normal Schools solid models have been procured and are used by some of the classes. Nothing has as yet been done in the Latin School, but the present year instruction will be given by Mr. Barry. Where there are so many copies of classical art as have been collected by the Latin School Association and by Dr. Gardner, it is hoped the instruction may be doubly profitable. In the new building for the Normal School, a room has been set apart for instruction in higher art by the exhibition of such casts and photographs as best illustrate the treasures of antique art. This is furnished by the liberality of a citizen of Boston.

More attention should be paid both in high and grammar schools to blackboard work. Every exercise on the board should be carefully criticised, and frequent exercises ordered. Every teacher knows the advantage a ready use of the crayon secures. Some of our most distinguished teachers of natural science owe much of their success as lecturers and teachers to the facility with which they delineate upon the board the forms their words cannot so clearly outline. There are teachers in our schools who find difficulty in drawing correctly on the board even the simplest geometrical figures. It is well to use the crayon attached to a long ferrule or porte-crayon in sketching on the board, that a firmer command of arm and hand may be acquired.

The highest classes might receive some instruction in coloring, and this will certainly be required before long in the Normal School, our present instructors being amply qualified for the work.

Drawing from memory is a most useful exercise, and should be practised early in the course. It may be done with the material on hand by drawing the model in the book used, and covering both model and copy, repeating the latter on the other half of the page. The most complete method, however, is the one extensively used in France, which shows most happy results. This is so little used in this country, that it has been thought desirable to give some account of it, for it may readily be adopted in some of our classes should the teachers desire, and will at any rate offer suggestions for any instruction in drawing from memory.

MADAME CAVÉ'S SYSTEM DESCRIBED.

The system used by Madame Marie Elizabeth Cavé has certainly produced most satisfactory results. With the motto of Rubens, "To see, to understand, to remember, is to know," as her text, she keeps that high standard of knowledge constantly before her. The eye must first be trained to see. "Learning to draw," she says, "is but training the eye correctly." But what is seen? Not the object as it is. Lines are foreshortened; the horizontal becomes inclined, or even a straight line appears curved. Did not the builder of the Parthenon recognize this when he raised the horizontal line of the ridge of the roof some inches, that it might appear other than it was? Drawing is the representation of an object as it is seen, while sculpture strives to copy it as it is. The imitation of projections on a plane surface requires an exercise of the understanding; and it is only by this that the progression from the rude scrawls on Dighton Rock, or the pictured outlines on the crags of Mokattam, to the miracles of Titian or Rubens, exists. The picture in all its perfection, as we view a tree, a rock, or a stump, is impressed on the retina; every leaf, every uncovered twig, the caterpiller eating the leaf and the moss growing on the stem and branches; the shadow of every leaflet as it breaks into countless fragments the ray of sunlight that loses itself in the thickening clusters; on the rock each lichen that for years has grown, almost imperceptibly enlarging its tiny territory; on the stump, each insect burrow, each varying tint of decaying wood, and the very wearing of the stormward side as the last tempest swept along. Until the eye be educated, little enough of all this is perceived, for we know not what to look for. When we have seen the almost invisible initials of the engraver of the die on the coin which others view without perceiving, we have gained a power, our eye has been educated, and we perhaps wonder that others cannot as readily perceive. When we see that the sides of a house seem to grow smaller as they recede from us, while we know well that they do not diminish in reality, our reasoning powers must be exercised and we must understand why these things are so. This is not all. If the picture of that flower so clearly impressed on our mind in every form and curve and tint, and so well understood that we know the meaning of that shadow where the stamens come between the light and the rounding corolla, is to fade away when the sunlight fades, and as the flower withers, what profit? We do not yet know, although we have seen and understood. The memory must take charge of the lesson we have gained, the treasures we have taken from nature's exhaustless store.

So far the objects proposed are those of true art education. Now for the methods of accomplishment peculiar to Madame Cavé's system. A model is chosen, whether a head or hand or a more simple object as represented, or a plane surface, and of this the pupil carefully makes a tracing on transparent paper. This completed tracing is the "proof," and is to serve as instructor. The pupil then places the model in a suitable position, and attempts to copy it. The application of the proof at any time detects the error or indicates the accuracy of the work, and the copy must be corrected until it becomes a transcript of the model, a result the faithful proof will certainly show more closely than the eye of any professor. When the copy is complete the model is removed, and the pupil draws is again from memory alone, using the proof only at the completion to test the work. The copy may be drawn from the model two other times if the pupil's memory is weak. It is well at the end, to test the exercise, to make another and reduced drawing of the model from memory in a small sketch book.

A solid model, a landscape, or figures may be used in the same way by using a gauze frame for the proof tracing, and the dry rules of perspective become useless lumber, with the exercise of this simple expedient. Before the pupil attempts solids, a careful study of the ways used by the great masters to represent them should be made, and for this the materials are abundantly accessible in the engravings from Raphael, Van Dyke, Rembrandt, Andre del Sarto, Murillo, Gerard Dow, Téniers, Claude Lorraine, Berzhem, and others. With a store of these, let the pupil make proofs and copies until the understanding is awakened, and it will not be long before mere youths will readily distinguish a Rubens or a Rembrandt, though the print be unlettered, and the use of this is the proof it affords of the education of the eye and the development of the understanding.

RESULTS OBTAINED BY USE OF THIS SYSTEM.

M. Felix Coitereau, French inspector general of fine arts, has, under orders, reported to the minister of the interior upon Madame Cavé's method of drawing the following results of instruction given to children of from eight to twelve years:

"(1) A remarkable correctness in the ensemble and contour of a figure or any other object.

"(2) A reproduction from memory scarcely distinguishable from the copy.

"(3) Acquaintance with the masters; I have readily recognized Raphael, Holbein, and others, in the drawings from memory of Madame Cavé's pupils, and I thus conclude they have for themselves become familiar with the great masters.

"(4) Finally, the idea of perspective: that is, that without having learned any of the rules of the science, pupils, in tracing from nature, execute correctly the greatest difficulty in the art of perspective—foreshortening.

"Thus, by exercising the memory of children, giving accuracy of vision and firmness of hand at the age when their organs, still tender, are docile, Madame Cavé renders them better qualified for the industrial professions, makes them skillful instruments in all the trades which pertain to art.

"With the old methods, one could not learn to draw before the age of twelve, a period which terminates the education of the working classes, because the judgment is not developed. With the ingenious teaching of Madame Cavé, the child, learning almost unconsciously to observe and compare, forms his own judgment, at the same time acquires that skill which is indispensable in every species of manual labor."

TIME FOR DRAWING IN THE SCHOOLS.

By a vote of this board, passed April 12, 1870, it was ordered "that one hour each week be devoted to drawing in the grammar and primary schools." One hour for the primary schools is enough, and should be divided into four lessons of fifteen minutes each, or two of half an hour; for although the younger children enjoy the exercise, their attention is easily wearied. If no more than one hour can be given for the grammar schools, that should be for one lesson; but if an hour and a half can be spared each week, that time will best be spent in two lessons of three quarters of an hour each. In the high schools the time has been regulated by the several committees.

This committee were anxious to understand the views of Mr. Bartholomew, who has for some time had charge of this branch in the Normal School and was recently the only teacher of drawing in the Boston schools, and they give here his report:

"*To the Committee on Drawing:*

"GENTLEMEN: Up to the present time, as you are aware, very little attention has been given to the study of drawing in the primary schools. Except in the training school, no systematic course of instruction has in any case been attempted, and for the want of some suitable means as an aid in imparting instruction, no such instruction could have been given. While some attention is given to this study in most of the grammar schools, different systems of teaching are adopted. In some of these schools picture-making is all that is aimed at, while in others a more sensible end is sought, and different means are used. In the high schools there is no harmony in the system of instruction adopted. Now, when the means used and the methods adopted in teaching this study are so dissimilar in character, it is useless to look for similar results. What we need, it seems to me, is some well-devised system of instruction that shall begin at the primary school and continue on without a break, through the entire school course. This system should aim to secure the power of representing objects from the objects themselves, or from imagination; and, further, it should be the best that can be devised to secure the most perfect education of the eye. Keenness of sight is, after all, a far more valuable attainment than mere skill in drawing. The ability to represent the forms of objects is of occasional service, but the eye is in constant use. The keener it is, the more we see. Then, again, a very large proportion of the pupils in our schools will, on leaving school, learn some trade in which success depends upon keenness of sight. In producing good work, the difficulty lies not so much in *doing* as in *seeing* what to do. If the eye is keen the hand is cunning, but if the eye is dull the hand is awkward and clumsy. It might be supposed by some that the education of the eye will necessarily follow the practice of drawing. This is true to a certain extent; but, to get the best results, we must adopt a system which demands accuracy of expression, and which places before the pupil such subjects for study and practice as render it possible for him to obtain a clear and accurate perception of the truths to be expressed. If the subjects are of the kind known as the picturesque, such as old logs, broken-down gates, dilapidated buildings, ruined castles, &c., the eye will receive but little benefit from the practice of drawing them. They present forms which do not demand accuracy of perception and expression. One may disregard the truth in every line without in the least affecting the general likeness or the good looks of the drawing. This kind of practice begets the habit of looking at everything carelessly, of disregarding particulars, and, as a matter of consequence, it leads to bad habits in execution. This class of subjects is now used, to some extent, in quite a number of our schools.

"It is thought by some that printed examples should be rejected altogether, and that the solid alone should be used. This might do under certain circumstances: for example, if a competent teacher could be employed for every ten or fifteen pupils, as is the case at the Lowell Institute; if the pupils were young men and women, and apt to learn; if it were possible to so arrange them that all might get a favorable view of the object to be drawn, it might do, if nothing better could be done. But where the instructor is himself a beginner; where he must take charge of fifty or sixty pupils, and these packed into a room, so as to make it impossible to place an object where it can be properly seen by any member of the class; and when the pupils are taken without regard to their natural relish or disrelish for the study, the thing is absolutely impossible. This experiment has been fairly tried at the Institute of Technology. Professor Ware, who has charge of this department in that institution, informed the board of education, when they were considering this matter a few weeks since, that the experiment was a perfect failure. If this result followed this method of teaching the art where the pupils were of mature mind, we certainly cannot look for success if it is tried in our primary or grammar, or even in our high schools, under existing circumstances. Before the pupil can be set to drawing from an object to advantage, the eye and the hand must have some training; the pupil must have some knowledge of those laws which relate to the appearance of objects, so that the eye may be under the direction of the mind, and he must also be acquainted and somewhat familiar with the means which others of larger experience and of greater ability, perhaps, have invented and used in expressing ideas. If the pupil is required to go to nature without some previous preparation; if he must discover for himself all he is to know; if he must invent the means he is to use in expresssing the truths connected with the objects he is to represent, he has a more difficult task assigned him than was ever placed before a pupil in any other study, and unless he is endowed with that 'special gift' we read abo uteh, will surely fail.

"In outlining the course of study I would be glad to see adopted in our schools, I begin with the

"PRIMARY SCHOOLS.

"It is a common notion that almost everything will do as subjects for study and practice in these schools. A few straight and curved lines, a triangle, square, circle, and a limited number of familiar objects chosen without regard to the knowledge or skill required in order to draw them understandingly, are thought to be all that is needed, and, in fact just as good as anything; and it is even considered by some to be a matter of no special importance whether these subjects are correctly or incorrectly drawn. Experience has taught me that to prepare a course of lessons suited to the capacity and attainments of little children, and such as may be the means of securing the best results attainable, calls for quite as much experience, thought, and care as is required in preparing a series of lessons equally good for the pupils of our high schools.

"The early lessons in these schools should be devoted to the work of training the mind to judge, with accuracy, of position, distance, and direction. Instead of using lines for this purpose, to begin with, I have found dots to answer better. They have this advantage over lines. It requires no mechanical skill to make a dot; the mind can be given entirely to the truth to be expressed. This is not the case where lines are used. When a change of means is necessary in order to keep up an interest in the work, very short lines may be used, and these put in the form of crosses and stars. As the pupils progress, these crosses and stars may be so placed with respect to each other as to form very pleasing figures; and, in this way, while the eye is being trained to see, and the mind to judge of position, distance, and direction, the taste is cultivated. Children soon get an idea of the principle upon which these figures are constructed, and I have seen some very pretty figures of their own design. In this work they should be encouraged, and set times should be devoted to this exercise, with the view of developing the inventive faculties.

"There should be an occasional exercise in drawing from memory after the example selected has once been drawn from sight. This is a valuable means of strengthening the memory for form. The ability to retain in mind clear and distinct impressions of the forms of things we have seen, is of great value to all. He who can bring to mind the views he has seen with all the clearness and freshness of reality possesses a power he would not part with on any account. To the mechanic this power is a means of pecuniary profit, and hence to him it is especially valuable. To those who would originate anything new and valuable in the way of form this power is indispensable. New forms are always made of old ones, and in producing new combinations, the more extensive the collection one has stored in memory the more hope there is of success. There are other advantages to be secured by this practice which need not be referred to here. By such exercises as I have suggested, the cultivation of the eye and the hand, the improvement of taste, the development of the inventive powers, and the strengthening of memory for form may go on together, and the study be made a means of improvement as well as amusement.

"In the course of the second year, the drawing of simple objects in outline from printed examples may be commenced.

"As a means of imparting useful information, and of drawing out that in the possession of the children, these examples should occasionally be used as the basis of an object lesson. When exercises of this kind have been given, the pupils have been found to take a greater interest in drawing the example than would otherwise have been the case.

"As to the amount of time which should be given to this study in these schools, I should say for the first year one lesson of fifteen minutes each day; for the second year, one lesson of twenty minutes each day; and for the remainder of the time, three lessons per week of twenty minutes each.

"GRAMMAR SCHOOLS.

"Under existing circumstances I would advise the use of slates for drawing in the lower classes of these schools. The middle and upper classes, having had some training of eye and hand in learning to write, may use a book with profit. The lower classes should be put to that kind of work to which I have referred as best calculated for the lower classes of the primary school. In the graduating class I would teach the drawing of solids from printed examples to begin with, and as the pupils progress in the mechanical practice of the art, and become familiar with the application of the principles of perspective and with those relating to light, shade, and shadow, I would gradually introduce the drawing of objects from the objects themselves.

"If two lessons per week of thirty minutes each can be given to drawing in these schools, good results can be secured. This certainly will be all that will be needed when the pupils in these schools shall have been taught in the primary school.

"HIGH SCHOOLS.

"As long as the pupils entering these schools come without previous training nothing can be done for them better than is now being done in the English High and the Girls' High and Normal School, that I am aware of. When the pupils in these schools shall have passed through a thorough course of instruction, begun in the primary school, the drawing of objects should be the first work on entering. In the boys' schools the middle year should be devoted to mechanical drawing, such, for example, as the drawing of plans, elevations and sections of buildings, machinery, &c.; and the last year to the study and practice of such subjects as come under the head of landscape drawing. In the schools for girls one year should be devoted to the special work of preparing them to give instruction in this branch of study in our primary and grammar schools.

"In these schools two lessons of one hour each is now devoted to this study, and this is all that is needed.

"This study should be taught in the primary and grammar schools by the regular teachers. To prepare them for this work I know of no better way than that suggested in a former communication from me.

"Respectfully submitted.

"WM. N. BARTHOLOMEW."

* * * * * * *

Respectfully submittted for the committee.

WM. T. BRIGHAM,
Chairman.

The committee submit the following order:

"*Ordered*, That the committee on drawing be authorized to employ a suitable teacher from the South Kensington Art School, as normal instructor in this city, at a salary not exceeding £500 a year.

"*Ordered,* That the committee on drawing be authorized to establish three evening schools for drawing, in such rooms as may be furnished for the purpose, the schools to be open at least two evenings in a week, from November 1 to May 1, under such regulations as the committee may propose."

This report is followed by that of a special committee on industrial schools, which is here inserted as an authoritative expression of the inadequacy of the merely literary training then given in the schools.

IN SCHOOL COMMITTEE, *May* 10, 1870.

The committee appointed to consider the subject of establishing industrial schools respectfully report:

In the opinion of your committee a subject of greater moment has seldom been offered for the consideration of this board. A year ago a petition was presented asking us to devise means for securing to the children of the public schools an early education in some useful branch of industry. The sum of three thousand dollars was placed at the disposal of the committee on industrial schools, to enable them to take under their charge and direction a small industrial school for women and girls already established. That committee found it inexpedient to do this, and your present committee did not consider that they were authorized to use this appropriation, voted for a specific purpose, in any experiments to be made under their own direction.

INADEQUACY OF PRESENT SCHOOL TRAINING.

That the present training of the public schools is utterly inadequate, in a great many cases, to the only purpose for which education is of any value, namely, for life, is very evident. That it makes a divorce between head and hand, between knowledge and practical skill, between artist and artisan, is also evident. That it tends also to perpetuate the absurd ideas that exist in regard to getting one's living by some other means than honest, skilful, and useful labor, will also be evident to any one who considers the subject. Every year more girls are educated for teachers than can find places in schools. Every year, too, girls who can never become successful teachers, even if they find situations, are instructed in what can be of no essential benefit to them in after life. They leave the schools, and many of them are absolutely unqualified to obtain their living in any employment that requires specific skill. Many of them could not get their support by plain sewing; very many cannot even mend their own clothes. If, in connection with their intellectual training, they had been taught something which had a direct bearing upon practical life, a more useful and happy career would be open to them.

It is not for our system of public education to foster the idea that professional life or teaching is more respectable or more worthy of pursuit than scores of useful employments which furnish the means of a comfortable support. Our present school education is too exclusively the preparation either for professional life or for a mercantile or shop-keeping life. Mechanics and artisans take few or no apprentices, and a girl or a boy, on leaving school, cannot learn a trade or become skilled in any useful labor without encountering such temptations and being brought into such associations that the prejudices existing against it are not wholly groundless.

URGENT NEED OF SOME FORM OF INDUSTRIAL TRAINING.

Your committee regarded this subject of industrial training as too important to venture upon any experiments without more specific and definite plans than have yet been laid before them. That it must become an integral part of the general education, and not be looked upon as a separate and specific charity, is the plain demand of common sense. Hitherto our idea of education has been what may be called the

Chinese one of giving a certain amount of book-training, and a sharpening of the intellect, which may be carried very far, and be no real preparation for a useful, wise, and happy life.

Whatever theories we may hold in regard to the education to be given to its children by the state, one thing is incontrovertible, that no system should be adopted which is injurious in its effect upon many who fondly look upon it as the greatest boon, and make great sacrifices to secure it. To very many the exclusive book teaching is of little real benefit, for it leaves them at the most critical period of their existence stranded, as far as acquiring a useful and satisfactory employment for life is concerned. Many drift away from school and go to fill up the already full ranks of those who have no trade, or art, or specific employment for the hand. To raise the standard of labor, labor must become an integral part of education, and the state must feel its responsibilities to others of its children than those who are to enter college and become storekeepers and merchants.

Such a training as educates young ladies to be teachers merely, and leads them to look upon other occupations as degrading, is surely not the training belonging to us, a sensible, free, working community. Labor can be raised in public estimation only by being made a part of the public education.

But, while your committee have been deeply impressed with this general conviction, they ask for a more definite and feasible plan than any which has been presented, before they are prepared to recommend to the board such an expense, and such a radical change as would be involved in the establishment of experimental schools that would fairly and fully test the benefit of an industrial training for both sexes.

There are some things, however, which they do consider entirely practicable.

The committee considered it to be of importance to enquire, first, into the manner in which that small portion of industrial training required by the regulations, viz, sewing, in the lowest class of the grammar schools for girls was carried out. In the opinion of your committee, taking into consideration the age of the scholars in the grammar schools and the time allotted to it, better results are obtained than they had been led to anticipate. At any rate, the results are sufficient to lead them to entertain the most sanguine expectations of the good that may be accomplished by carrying on the work still further. At every step they were more and more impressed with the importance of this subject and the expediency of extending this branch of sewing in the schools. And in order that the time now appropriated in this way should not be to a great degree wasted, it seemed to your committee absolutely requisite that instruction in sewing should be carried on further than it is. To teach it to the youngest class for a single year, and then to have it entirely dropped, seemed very poor economy to say the least. On consultation with the teachers, some of the most practical and successful among them have been found in favor of extending sewing to other classes besides the lowest. It seems, indeed, absurd to give so many of our girls so much instruction in branches which will never be of any practical use, and to neglect this matter which must enter into their actual life almost every day and every hour.

Besides the extension of sewing to other classes. and the introduction of cutting and fitting to the older girls, the committee consider it perfectly feasible to establish in connection with the Girls' High and Normal School an industrial department, in which those members of that institution who choose to take only a partial course may be instructed in branches having a direct bearing upon their future modes of obtaining a livelihood. Two hundred pupils entered this school at the last examination, and only sixty-eight received diplomas at the end of the previous year. Many of those who thus leave would be very much better off for some training in a practical direction. And many of those who remain to complete the course are unable to obtain positions as teachers.

There are, also, in the first and second classes of the grammar schools those who will never derive any essential benefit from the exclusively intellectual course of studies, and who would gladly enter some department of practical instruction where they could have instruction bearing upon the means of acquiring a livelihood. Influenced by means of these considerations, your committee would make the following recommendations, which they do not deem it expedient to embody in any special orders, as they do not propose any change during the present school year.

RECOMMENDATIONS.

First. That sewing be made obligatory in all the grammar schools for girls.

Second. That sewing for two hours each week be adopted in all the classes, except the first and second.

Third. That in the third and fourth classes of the grammar schools cutting and fitting shall also be introduced.

Fourth. That a department for practical instruction be added to the Girls' High and Normal School, wherein bookkeeping, designing, telegraphing, drawing on wood and stone, and needlework in its various branches, shall be taught as elective studies, to which pupils also may be admitted from the first and second classes of the grammar schools.

These recommendations your committee offer as the result of a careful consideration of the subject, and desire further time to determine what other measures may be expedient in regard to the introduction of some methods of industrial training, particularly for boys.

C. C. SHACKFORD.
S. K. LOTHROP.
JOHN A. LAMSON.
HALL CURTIS.
JOHN PARKMAN.

In the report for 1871, the topic of drawing is thus treated in the general report of the committee:

With regard to this important branch of public instruction, a new and lively interest has arisen during the last year. The first steps have been taken to bring the whole body of pupils under an intelligent system of instruction, by educating the teachers in normal classes. The report of the drawing committee will best show what has been done, and what remains to be undertaken. This is probably one of the most important movements made in our time, and its effects will be felt powerfully in many ways. Education is not altogether an interior process; other faculties besides the reason demand cultivation. Drawing, which educates the eye and the hand, gives facility to express the thoughts of the mechanic as well as the plans of the engineer, the fancies of the designer in decoration, the recollections of the traveller, and the conceptions of the creative artist. By the power to draw, the value of any mechanic's labor is vastly increased, and in time we shall see greater elegance in furniture, in household utensils, in ornamental fabrics, and in domestic architecture. With increased knowledge of art in its higher forms, we shall see less of the wretched plaster ornaments, and the tasteless pictures now cherished in so many houses. Books will be free from the coarse and ignorantly-drawn plates with which so many are now "illustrated." Another generation, reared under these more favorable influences, will grow up with finer instincts of proportion, and we may hope that *art*, in its true power and divine beauty, may not always be the meaningless word it has so long been.

Aside from these remote prospective benefits, the training of our teachers in the art is sure to bring immediate advantages. We have before called attention to the power which a teacher exerts in oral instruction. The art of making thought visible by illustrative figures on the blackboard is the natural complement of oral teaching. The intelligent teacher talks with chalk in hand, illustrating as she proceeds. She does in this way a twofold work, arresting attention and making impressions that are indelible. What Agassiz is before a class of naturalists, the model teacher becomes in the estimation of her expectant pupils.

The public is to be congratulated upon the employment of Mr. Walter Smith as director of art instruction, since from his familiarity with the workings of drawing schools in England, and from his great natural aptitude as an educator, much is to be hoped for in this department.

The following were the members of the committee appointed to prepare the annual report from which the above extract is taken: Francis Underwood, chairman; William T. Adams, Charles K. Dillaway, George H. Monroe, Lyman Mason, Hugh J. Toland, Richard M. Ingalls, Henry C. Hunt.

In the superintendent's report for this year nothing is said of drawin the schools, but the success of the experiment of the evening drawing school is thus recorded:

EVENING DRAWING SCHOOL.

The committee on drawing, in the last year's report, quoted the act of the legislature, approved May 16, 1870, requiring provision to be made for free instruction in "Industrial or Mechanical Drawing," and earnestly recommended that the requirements of the statute be met by establishing evening drawing schools, where drawing only should be taught. The recommendation was at once adopted by the school board; the city council made the requisite appropriation to defray the expense; the commodious drawing-rooms of the Institute of Technology were secured, and the school was opened late in November, with several departments and a crowd of promising and deserving pupils. Nearly a thousand applicants, male and female, entered their names upon the register; upwards of five hundred pupils received instruction for a longer or shorter period, not more than two hundred and twenty-five being accommodated in the rooms at one time; the school was opened four nights a week, the pupils divided into two sets, attending in turn two nights a week. The average number of different pupils attending weekly was 380; the total cost was $6,014.84; of this sum $1,858.50 was expended for instruments, patterns, and furniture, which are now on hand. Ten different instructors were employed, most of whom were connected with the Institute of Technology, either as teachers or pupils. Instruction was given in general free-hand drawing, in the free-hand drawing of machines from solid models, in mechanical and architectural drawing, and in ship-draughting.

The school was altogether a success. The pupils, a majority of whom were young mechanics, found they were getting what would be of the greatest use to them, and so they attended punctually and worked with a will. The teachers were full of enthusiasm. The committee on drawing, led by the accomplished chairman, were indefatigable in their attention to the interests of the school.

There was some hesitation and delay in making the necessary appropriation for the continuance of the school next winter. I am not surprised at this, for the school is a *new* thing, and here *all* new things in our educational progress, however useful or excellent, have to undergo careful scrutiny. This is well. But such an educational improvement as this, once introduced in this city, can never be abandoned, because it meets an immediate and pressing want of the times. The more it is known, the more highly it will be appreciated. It is by no means a contrivance for teaching at the public expense an unimportant accomplishment to a few idlers and drones. It is a wise provision for furnishing the young artisans and skilled laborers in various crafts the technical instruction which they need and which they cannot get except by means of schools of this description.

The text of the report of the committee on drawing for this year (1871) follows, omitting details of assignments of teachers, etc. All the schools seem suddenly to have attempted drawing, but the lack of elementary training on the part of the pupils in the higher schools is apparent.

A comparison of the work in the schools, as here detailed, with the latest official programmes of study adapted to each grade of schools, arranged by the State art director, Professor Walter Smith, as given in the preceding pages of this Report,* will show the difference between the best teaching of drawing known to the schools before the coming of Professor Smith and the progressive system introduced by him.

This report is also of interest as describing the preliminary visit of Walter Smith to Boston, and the final action of the city educational authorities in securing his services. It will be observed that the committee do not hesitate to avow their belief that, at that time (1871), there was no one in the United States who was competent to devise and introduce a practical system of instruction in industrial art drawing adapted to the needs and uses of the public schools.

They say this, notwithstanding the tribute paid in the opening passages of their report to Mr. Bartholomew, the city's veteran instructor in drawing.

These official utterances are noteworthy, because the very success of the efforts of Professor Smith during the twelve succeeding years makes this statement of the committee as to the conditions in 1871 seem almost incredible,

> For all can raise the flower now,
> Since all have got the seed.

REPORT OF COMMITTEE ON DRAWING, 1871.

In accordance with the order of the board, passed July 11, 1871, the committee on drawing present the following report:

During the past year drawing has been introduced into all grades of public schools in this city, and the teachers generally have given ample evidence of their ability to teach this exercise, provided a suitable system may be given them. Even with the text-books in use in the schools for some years past, those teachers who have taken pains to instruct themselves have produced most gratifying results in their schools, and have settled the question of the capacity of all pupils in the schools to practice drawing.

Our oldest instructor in drawing, Mr. William N. Bartholomew, to whom our public school children are indebted for all their instructions in drawing for many years, and whose published text-books have been of great benefit in many schools throughout the country, has felt obliged to retire from active instruction and seek the restoration of his health in rest.

His place has been filled by Mr. Charles Furneaux, whose work in the evening schools and elsewhere has proved very successful. Mr. B. F. Nutting has been nominated as instructor, and assigned to the Roxbury High School, where he has for some years been a teacher. Mr. Hitching, Mr. Berry, and Miss Bailey continue their instruction.

In some cities the suggestion in relation to the partial adoption of Madame Cavé's system, contained in the last report of this committee, has been followed with gratifying success. Where the number of pupils to a teacher is large, as is unfortunately the case in most of our schools, it becomes impossible to examine often enough the work of each one; and if the pupils are told to draw a line in a certain way, personal inspection only will show whether it has been drawn correctly, unless each pupil be made to correct himself, as Madame Cavé advises. With the Bartholomew books this is easily done by giving the pupil a slip of tracing paper, on which he shall carefully trace the copy; then, when he has drawn in his book, by placing the tracing over his work, any faults in form or size are at once detected, and can, with the help of rubber, be corrected. When the exercise has been well drawn on half of the page, the copy may be turned over or removed, and the exercise be repeated on the other half of the page from memory alone. This is so easily done with the books now in use in the majority of schools in this State, that the system has met with favor and been followed, so far as can be judged in the short time of its trial, with a due measure of success. In our own schools it has not been tried, but the system of Bartholomew has been used under the most careful supervision that the committee and instructors could give. * * *

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* See Part I, pages 105–7; see also Appendix C.

PRIMARY SCHOOLS.

The work here has been almost entirely with slates. The dots, crosses, and lines of Miss Stickney's excellent system are giving an excellent training of both eye and hand, and the accuracy with which children, six and seven years old, draw squares, triangles, and other geometrical figures, gives promise of most satisfactory results, when other and more advanced examples can be placed before them in the higher schools.

Mr. Bartholomew has published a series of charts for the use of primary schools, which are good selections from the cards authorized by the Board; but in the Boston schools it seems better that the teachers should make the enlarged copies themselves on the blackboard, as is now done in many, indeed most, of the schools, that the children may not only see that the task can be done, but also the exact method. If there are any teachers who cannot do this, they are surely incompetent for their position, and should at once give place to those who are able to teach what any of their pupils can learn.

GRAMMAR SCHOOLS.

Many of the grammar schools are still doing the work of primary schools, and endeavoring by exercises with the straight lines and simple geometrical figures to acquire a tolerable command of the pencil. In all the upper classes throughout the city, drawing from solid models should be introduced as soon as possible. Some difficulty has been found from the propensity to rule, which requires more vigilance than some teachers seem willing to give. The children who have had a proper primary training find it much easier to reject all rulers. Both teachers and committee have constantly called attention to the importance of a reliance on the eye alone, and some teachers have punished those pupils who use rulers, by making them repeat the exercise out of school hours.

HIGH SCHOOLS.

In the Latin School only the lowest classes are as yet instructed in drawing, and their work has been most elementary. The larger part of the pupils had never received any instruction before. All have, however, made satisfactory progress. In the high school the upper classes draw from solid models, in books prepared for the purpose, under the direction of Mr. Hitchings. The models are not such as will increase the taste or excite the interest of the pupils, and will give place to better ones as soon as they can be procured. In several of the divisions the skill already acquired has been put to practical use in illustrating recitations on the board and in notes of botanical lessons. In the departments of physical and natural science the teachers find a very great assistance in the pencil and chalk, properly used. Every room in this school, and the work of every pupil, have been carefully inspected, and both teachers and pupils are working earnestly, and, generally, successfully.

In this, as well as in the grammar schools, a system of composition has been introduced as a recreation. At certain times the pupils are allowed to make an original design in the blank portion of their books, and by this they are shown the necessity of skill in drawing lines and estimating spaces. The pupils all seem much interested in this exercise, and although their designs are crude and generally devoid of beauty, as they have had no applicable instruction, yet it has been very profitable to them.

In the Roxbury High School a course has been pursued entirely different from that in the other schools of this city. The pupils have, in many cases, selected their own models, and have usually chosen most execrable ones. Much time has been devoted to perspective without any satisfactory results, and, with the system used, it is quite impossible for one instructor to give enough assistance to the pupils. The work of all the pupils has been carefully inspected more than once by several of the committee, and the want of a careful primary training was felt to be almost universal in the school.

In the Dorchester High School there has been a want of uniformity, and the work of the instructor has been needlessly increased and even wasted. The pupils, however, are interested, and with another year will, no doubt, produce satisfactory results. The instruction in perspective, both in this and in the preceding school, requires great change to adapt it to the needs of the pupils.

The Girls' High and Normal School is the only school in the city where suitable provision has been made for instruction in drawing. A room has been furnished with desks where a class can be so arranged that the light may fall upon the models in use, and where all extraneous matters may be excluded. With suitable models this room is all that is desired. The work done hitherto has been very exact, but at the same time rather mechanical, and devoid of that interest which should inspire every pupil. In the primary department some excellent examples have been placed before the children, and these must show the young ladies, many of whom are being trained for teachers, the immense power such a facility in the use of crayon gives a teacher when face to face with her class. The chief difficulty in this school seems to be in the examples selected, or rather used, for there has been no opportunity for selection.

In this connection must be mentioned the gift by the American Social Science Association of a collection of casts of antique statues and bas reliefs.

This collection was selected and arranged with especial reference to the æsthetic culture of the young ladies of the school, by Mr. C. C. Perkins.

Here follows a descriptive list of the twenty-two casts of antique statues and busts which comprise the collection. One of these is a portion of the frieze of the Parthenon. This was inserted as a frieze in the walls of the exhibition hall.*

These have all been suitably arranged in the large exhibition hall of the new schoolhouse on Newton street, where teachers and pupils may study such masterpieces. Such collections, if properly used, cannot but be of immense advantage to our schools, forming, as it were, a crown to the whole system of art education. What we need most now are primary examples, through which the pupils may be led to a just appreciation of much in these casts that is now to them a sealed book. That this want will be supplied we have every reason to hope, and we feel confident that not only the pupils of this school, but the advanced pupils and teachers throughout the city, will soon examine with pleasure and profit this collection of casts, which, although small, is yet unexceptionable and admirably fitted to impart correct ideas of beauty and true form. It will be not an unworthy preparation for the full enjoyment of our future art museum when the statues in this hall have been studied and understood.

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* For further account of this collection, see pamphlet published by Houghton & Co., Boston, 1871, for the American Social Science Association. See also Part II of this Report.

Lectures on ancient art have kindly been given in this room by Mr. C. C. Perkins to the pupils of the school, and the lessons thus imparted were received with interest and profit.

FREE EVENING SCHOOL.

Late in November notice was given in the public papers that a free drawing school would be established by the city, and November 28 the registry was opened. Nearly a thousand men, women, and children entered their names, age, occupation, and residence. Many more were turned away, as the rooms provided by the city would not accommodate them.

The officers of the Institute of Technology kindly consented to open their fine building to the school, and the superintendent of public buildings hired the large drawing-room, which was supplied with gas-light for this purpose, and four other rooms, which were not intended for this use, and were wholly unsuitable both in light and arrangement.

December 6 the school opened, with Mr. Daniel W. Willard as principal, and Messrs. William E. Hoyt, Edw. R. Clark, C. M. Moore, Charles Furneaux, C. S. Ward, and Frank B. Morse as assistants. From the registers it was found that the average age of the pupils was 22.72 years—the oldest 55, the youngest 15. Ninety-six distinct occupations were represented: carpenters (155), machinists (135), students (117), clerks (43), and woolcarvers (38), being the most numerous. It was difficult to meet so various wants, but as it was soon found that a very few had received any previous instruction in drawing, the work of classification was much simplified, as to a certain stage all would require the same course.

The large drawing-room, accommodating about 100 pupils, was used for the class in mechanical and architectural drawing with instruments, and, as each pupil was allowed only two evenings each week, about 200 used the tables and instruments.

As it was difficult, if not impossible, for the pupils to procure suitable apparatus, this was purchased by the city, and is now on hand for future classes. Papers and pencils were also furnished free of cost to the pupils. The chief trouble was in procuring copies or models, and this was met by the preparation of lithographs of geometrical and mechanical problems, and finally by borrowing from the Institute and from architects.

One room, in charge of Mr. Morse, was devoted to free-hand drawing in crayon from solid models, after the system of M. Hendrick, in use in the schools in Belgium; and, although this class was the smallest, it was the one of all the others where mechanics could reap the most advantage. The blind desire to use instruments before a simple line figure could be drawn by the eye was hard to resist, and much good instruction was wasted on those wholly unprepared for the use of instruments.

Every pupil throughout the school had a card, bearing his or her name, number, and evenings; and, to procure instruments, this card was deposited in the case, to be returned when the instruments were replaced in order. With this system the loss was very insignificant.

In the rooms devoted to general drawing, under the charge of Messrs. Furneaux and Moore, the selection of models was left mostly to the instructors, as the whole matter was experimental. The first lesson was from small pebbles, which the pupils collected for themselves. They were told to imitate them as closely as possible, and the result was a most complete failure, so far as the drawings went, but the deficiency shown was of simple outline; and the next step was to place on the board the admirable examples of Mr. Walter Smith, which were reduced by the pupils. As the outline improved, twigs, oak leaves, and plaster casts were used, the latter borrowed of Prof. William R. Ware. When both outlines and shadow had been partly mastered, flowers were used to encourage rapidity of execution, as the pupil must use all energy to draw the outline, at least, before the flower faded; and a lesson of two hours, or a single evening, was all that could be allowed for this. Callas, rosebuds, tulips, and petunias were principally used, because most easily obtained; but other flowers were used for especial purposes, as, with one pupil, who seemed determined to make heavy lines, a pot of lilies of the valley was tried; and the evident unsuitableness of heavy lines to represent so delicate a flowe rcompletely cured the fault. Mr. Furneaux procured all the flowers, and our thanks are due to the florists, and to the horticultural society, who kindly gave us many specimens at a season when they were not easily procured, and would have cost the city a large sum, if purchased.

A portion of the class in general drawing was trained almost exclusively on plaster casts, with perhaps some disadvantage, as the outline was neglected. With all, the careful copying of flat encaustic tiles was given as a practice in regular geometrical drawing, and the representation of color by flat even tints.

This instruction was varied by frequent lessons in ornamentation, with short lectures on various adaptations of flower or plant form to ornament, and on the historical order of this class of design, by the instructors, members of the committee, and others. Then the pupils were encouraged to combine conventional forms in original designs, and good and bad effects were illustrated by specimens of paper-hangings and printed cloths. The results of the very short and inadequate instruction in design were not marked; and so much importance is attached by your committee to this branch that another winter, when more advanced pupils have been secured, strenuous efforts will be made to make it effective. The South Kensington rules or principles of decorative art are so concise and useful, that they are here reprinted, as the text of the instruction given.

"GENERAL PRINCIPLES OF DECORATIVE ART.

"The true office of ornament is the decoration of utility. Ornament, therefore, ought always to be secondary to utility.

"Ornament should arise out of, and be subservient to, construction.

"Ornament requires a specific adaptation to the material in which it is to be wrought, or to which it is to be applied; from this cause, the ornament of one fabric or material is rarely suitable to another, without proper readaptation.

"True ornament does not consist in the mere imitation of natural objects, but rather in the adaptation of their peculiar beauties of form or color to decorative purposes, controlled by the nature of the material to be decorated, the laws of art, and the necessities of manufacture.

"PRINCIPLES OF DECORATIVE ART.

"(1.) The decorative arts arise from and should properly be attendant upon architecture.

"(2.) Architecture should be the material expression of the wants, the faculties, and the sentiments of the age in which it is created.

"(3.) Style in architecture is the peculiar form that expression takes under the influence of climate and materials at command.

"CARPETS.

"The surface of a carpet, serving as a ground to support all objects, should be quiet and negative, without strong contrast of either form or color.

"The leading forms should be so composed as to distribute the pattern over the whole floor, not pronounced either in the direction of breadth or length.

"The decorative forms must be flat, without shadow or relief, whether derived from ornament, or direct from flowers or foliage.

"In color the general ground should be negative, low in tone, and inclining to the tertiary hues; the leading forms of the pattern being expressed by the darker secondaries; and the primary colors, or white, if used at all, should be only in small quantities, to enhance the tertiary hues, and to express the geometrical bases that rule the distribution of the forms.

"The laws regulating the harmonies and contrasts of color should be attended to.

"PAPER-HANGINGS AS DISTINCT FROM WALL DECORATIONS.

"The decoration of paper-hangings bears the same relation to the objects in a room that a background does to the objects in a picture.

"It should not, therefore, be such as to invite attention to itself, but be subdued in effect, and without strong contrasts either of form, color, or light and dark.

"Nothing should be introduced which disturbs the sense of flatness.

"All natural objects, therefore, when used as ornament for these manufactures, should be rendered flat and in simple tints.

"While the decorative details should be arranged on symmetrical bases, these should be so resolved into the minor forms as not to be intrusively prominent.

"Color should be broken over the whole surface, so as to give a general negative hue, rather than masses of positive color.

"METAL FORMS, POTTERY, AND PLASTIC FORMS GENERALLY.

"The form should be most carefully adapted to use, being studied for elegance and beauty of line, as well as for capacity, strength, mobility, &c.

"In ornamenting the construction, care should be taken to preserve the general form and to keep the decoration subservient to it, by low relief or otherwise; the ornament should be so arranged as to enhance, by its lines, the symmetry of the original form, and assist its constructive strength.

"If arabesques, or figures in the round, are used decoratively, they should arise out of the other ornaments and constructive forms, and not be merely applied.

"All projecting parts should have careful consideration, to render them as little liable to injury as is consistent with their purpose. It must ever be remembered that repose is required to give value to ornament, which in itself is secondary and not principal.

"CALICOES AND OTHER PRINTED CLOTH.

"The ornament should be flat, without shadows or the appearance of relief. If flowers, foliage, or other natural objects are the motive, they should not be direct imitations of nature, but ornamentally displayed in obedience to the above rule.

"The ornament should cover the surface, either by a diaper based on some regular geometrical figure, or growing out of itself by graceful, flowing curves. Any arrangement which carries lines or pronounces figures in the direction of breadth is to be avoided, and the effect produced by the folding of the stuff should be carefully studied.

"The size of the pattern should be regulated by the material for which the design is intended—small for close, thick fabrics, such as ginghams, &c.; larger for fabrics of more open textures, such as muslins, bareges, &c.; largely covering the ground on delaines, and more dispersed in cotton or linen goods."

The want of suitable text-books has been felt in this as in the day schools.

Soon after the commencement of the school Mr. Clark resigned, and his place was filled by Mr. Henry Richards, as assistant in architectural drawings.

A class in ship-drawing being called for, Mr. Frank L. Fernald, of the Charlestown navy-yard, was appointed and a class organized. The work was very technical, and seemed to require less free-hand work than any of the other departments. The success of this class was very satisfactory, for the encouragement of naval construction in every way seems to be especially the duty of this city.

Mr. Willard was compelled, much to the regret of the committee, who felt that the great success of the school was largely due to his constant exertions, to resign, as the night work was too severe in addition to his daily duties in the Institute of Technology. Mr. William A. Pike (now Professor of Engineering in the Maine State College, at Orono) was appointed in his place. An assistant to take charge of the instruments and collect and distribute the drawings was appointed, in accordance with a vote of the board.

In the whole school the average attendance was 380. With the whole number no cases requiring discipline occurred, and the most perfect order was preserved almost without rules. Any lady might enjoy the advantages of the school with complete comfort.

The cost of the school was as follows:

Salaries of instructors	$1,824 00
Instruments, boards, rules, squares, &c	1,521 25
Paper, pencils, ink, plates, &c	772 34
Furniture	197 25
Rents	1,700 00
Total	6,014 84

Making a total cost per pupil of $1,566.

Deducting the instruments	1,521 25
The plates and material on hand	150 00
Furniture	197 25
Total	1,868 50
We have for the real cost	4,146 34
The cost per pupil	10 90

Even this cost is much reduced if we consider that many pupils received but twenty lessons or less, and then gave place to others, so that many more than 500 reaped appreciable advantage from the school, although we could not at any one time accommodate more than 225 pupils.

The lesson this school has taught seems to be that all must begin with free-hand drawing before using instruments; that better and more complete graded models of machinery must be furnished, and that examples of the best art that can be procured must be placed before the pupils. The last want will be met in time by the establishment of the proposed art museum, and the others have been supplied by the purchase of models under an appropriation of the board and by private subscription. A less number of lessons cannot accomplish the work desired; and probably many of those who have attended the school the past season will continue next winter.

The experience of the evening schools of other cities seems to show the wisdom of commencing the course earlier in the season, perhaps as early as the middle of October, and closing the school in April.

It seems, notwithstanding the committee's appreciation of the utility of the free evening drawing school, that the city authorities refused to admit its claims. Such accidents of legislation are liable to occur so long as the community at large is not sufficiently informed as to the practical bearing and utility of such studies.

The city council have seen fit to refuse the appropriation for the evening school, which they are compelled by the statute to make, and the uncertainty of this appropriation has a most injurious effect on the school arrangements. Boston has in this matter been far behind other cities in the Commonwealth in proportion to her population and wealth, and there are now no funds designated for the support of the free drawing school next winter. We cannot believe that the people of Boston will allow so successful a school to be suppressed for want of a few thousand dollars.

EXHIBITION OF DRAWINGS.

Late in the season it was decided to hold an exhibition of the work in all the schools, and the board made an appropriation of $250 to meet the expenses. Owing to delays it was not until Friday, April 28, that the appropriation was finally passed on by the committee to which it was referred, and on Monday the exhibition opened in Horticultural Hall. There was of course no time for preparation in the schools. In the

Latin and high schools the chairman of this committee selected three books from each class as the best specimen, and the several instructors were requested to do the same in the grammar schools. The work of the free evening school had already been selected, as the drawings were all held as the property of the city. It was originally intended to hold the exhibition only two days, in order that the regular drawing exercises of the schools might not be interrupted by the detention of the books, but, at the request of many masters, it was kept open on Wednesday, the additional expense being met chiefly by private subscription.

Each school had an opportunity to compare its own work with that of other schools of the same grade, and also see what was required in the higher schools. The variety in the quality of each school's exhibition was of course very great; but as all the masters, with one or two exceptions, have had the same chance, it seems fair to single out the school which was pre-eminently distinguished by the thoroughness and extent of its work. The Shurtleff school exhibited a specimen of drawing from every one of its pupils, and there was not a bad one among the whole collection; thus proving that every child can learn to draw if properly taught. Many of these specimens were exceedingly well done, and the geometrical figures were so accurate that a well-known artist of this city remarked to one of the instructors when looking at the work of this school, "It is impossible that they were done without dividers and rule; that, now (pointing to one), was never done without instruments!" "Indeed it was, sir," said a little girl, who stood by, "for I did it myself." The artist afterwards visited the school and saw many others doing as accurate work.

Now, what has been done in this school can be done in every school in Boston, and it will be very strange if the Shurtleff school does not have some formidable rivals at another exhibition, for there were several other schools where excellent work was done.

The work of the free evening school certainly attracted the greatest attention, and in quantity and variety as well as in quality, was remarkable. Nearly all the pupils whose work was exhibited had had no previous instruction; some did not know the use of pencil or crayon; and in one or two instances the entire work was shown that the constant and marked improvement might be shown at a glance. The collection of crayon drawings of machinery from Mr. Morse's room occupied the platform. They were done on brown paper, and the intense black of the crayon made them very distinct and attractive.

The distinguishing feature of this exhibition was the utter absence of special preparation. Not an hour had been taken from the school time to prepare for exhibition, but the honest work, the best that could be selected in the short time allowed, was placed before the public. No "show" drawings were prepared; where the regular lessons had been well done the school had the credit, but there was certainly no opportunity of making up lost time by extra exertion just previous to the exhibition day. Another year this advantage cannot be claimed, for all the schools will doubtless work with the exhibition in view; but no encouragement will be given for the preparation of drawings simply for show. In all cases the specimens shown should be collected from the year's work, and this selection should be a reward of merit showing clearly regular work and not special preparation.

INSTRUCTION FOR THE TEACHERS.

As the employment of special instructors in sufficient number to meet the wants of the schools in Boston was quite out of the question, it was decided that the regular teachers could and must do the work, under suitable direction. After a careful consideration of the means to be used to carry into effect this important addition to our system of public education, a consideration which called for an examination of the systems in use in Belgium, France, Prussia, and England, it was finally decided that the system in use at South Kensington should be the basis, while the Belgian and French methods, where they surpassed this in efficiency, might be grafted on.

The board accordingly gave this committee permission to employ a graduate of the

South Kensington Art Schools, and with the assistance of several gentlemen, both here and in England, they have selected a gentleman distinguished by his success as a teacher of art, and as an organizer of art schools; one who had clearly seen the defects of the English system, and had labored long to improve and extend that system.

The committee were convinced that no person in this country could organize a system of drawing for our public and evening schools, a fact admitted by all who are informed on the subject, and they at once communicated with Mr. Walter Smith, Art Master at Leeds, the gentleman designated by the science and art department of South Kensington. This correspondence continued some time, and at least, in order to do nothing hastily, Mr. Smith was invited to visit this country, see our schools, and then decide whether the field was such that his labor in it was likely to result satisfactorily to himself in the city.

PRELIMINARY VISIT TO AMERICA BY WALTER SMITH.

In May he came and visited all our high schools and many of our grammar and primary schools. Should no other work be done by him, the suggestions he then made, as class after class was inspected, would be invaluable, and fully repay the committee for the trouble in the premises.

It was found that, without disturbing the present system of instruction in the lower classes, greater efficiency could be given to the instruction everywhere by slight changes in the order of instruction, and most especially by a proper preparation of the teachers.

The utter impossibility of procuring in this country suitable casts and models, on the selection of which so much depends, induced the committee to ask for a small appropriation to purchase these in Europe. Although the original cost of plaster casts is light, the expense of packing, transportation, and breakage is so considerable that only one-half of the appropriation could be expended in the purchase. Under these circumstances, the committee authorized its chairman to communicate with the South Kensington authorities and ask for a gift of examples illustrating the course of study. This was done, and the committee are happy to announce that this request has been met in the kindest spirit, and an extensive selection has been made of students' work in all the various grades of study, and will be presented to the city of Boston. Mr. C. C. Perkins, in fulfilment of his liberal offer, has purchased a full set of the models from which these drawings are made, and we shall thus have, with the French and German models, purchased by the appropriation and by private subscription, a valuable apparatus for the instruction of both teachers and pupils.

It would be desirable to import the mould of the plaster casts, as that can be done at less expense and risk, although the first cost would be more. Copies could then be multiplied for any school at a trifling cost, perhaps a few cents for each cast. As the State will probably be compelled to adopt such a course to supply the many towns already seeking a series of models, this city may be saved the expense of the first outlay.

The city council has prepared the upper floor of the primary school in Appleton street for the reception and use of this apparatus, and, although the rooms are too low studded to be at all suitable for a drawing school, yet they will answer the purpose for the present.

The selection of models in England and on the Continent has occupied much of Mr. Smith's time since his appointment, and he returns to this country with his collection, and his very extensive knowledge of art will be made at once available to our teachers. In order to train our teachers in this new branch of duty some apparent sacrifice must be made on their part, although the advantages given them certainly are unequalled, for they thus obtain instruction without expense to themselves, which will largely increase their teaching power.

The general outline of the plan of instruction is as follows:

Every teacher must, once a fortnight, receive a lesson from Mr. Smith, which she will in turn impart to her pupils. Twice each year there will be an examination of every school, when each grade will have a model to draw in a certain time; the drawings will be labelled with the name of the school, pupil, and teacher, and collected for Mr. Smith's inspection. In this way he will be able to see when any school falls behind, and where the trouble is, and at once go to that school and correct the faulty teaching; and, on the other hand, when the work shows an ability to profit by more difficult lessons in more advanced grades, the promotion can be made.

This normal instruction is to be given in the rooms prepared for the purpose in the Appleton street building, and, as the number of both grammar and primary teachers is so great, and but a few can be properly instructed at a time, it was thought best to ask all the special instructors in drawing to meet at the school every Wednesday, and from 9 o'clock until 11 receive directions and instruction from the normal master; at 11 the first class, of about one hundred teachers, will meet for an hour; at 12 the second; and at 1 the third class. The first Wednesday the primary teachers will be instructed; on the second, the grammar teachers; and so on alternately. It is of great importance that this instruction should all be given on one day, as great economy in the use of models and diagrams, as well as facility in teaching, is gained by this means. It will be seen that this encroaches slightly on the school hours, but by dismissing a few schools in the immediate neighborhood one hour earlier than usual once a fortnight, and a few at a greater distance fifteen minutes earlier, all could be accommodated without taking the time of the teachers on Wednesday and Saturday afternoons, which is, if the teachers be faithful, well enough employed.

Your committees considered various plans, among others that of calling the teachers between 12 and 1 or 5 and 6; but in either hour the time consumed in arranging the models, &c., three times, as would be necessary, as the same lessons must then be repeated three times on different days, would be greater than that devoted to instruction, and it was felt that a strict economy in the work of all the schools would be better met by the proposed arrangement.

If it can be made obligatory on the teachers to attend the instruction thus placed in their reach, the whole body of instructors will, in the course of a few months, be competent to teach drawing with far better results than have ever been attained in any schools in this Commonwealth; and if the desire to make special instruction fall into the times of regular instruction, and thus dispense with a part of the special instructors be real, some plan similar to this, of instruction to the teachers, must be afforded by the city, and in future teachers applying for appointment under this board should prove themselves competent to give the required instruction in drawing, as well as in geography or writing.

In conclusion, the committee express a hope that some arrangement may be authorized by which the teachers of neighboring towns and cities may reap the benefit of Mr. Smith's instruction, so far as it can be done without injury to the interest of the city. Many applications have already been made from committees and instructors for this privilege, which, of course, the committee could not grant. The cities where the statute has been obeyed have generally been in communication with this committee, and the results determining our own course. The interest felt throughout the State in this new branch of public education, an interest daily increasing, is most encouraging; and as Boston is looked to for advice and example, it behooves us to do the work earnestly and as thoroughly as lies in our power.

Respectfully submitted.

WM. T. BRIGHAM,
WM. WOODS,
J. C. J. BROWN,
ROBERT C. WATERSTON,
JAMES MORSE,
GEO. BIGELOW,
JAMES WALDOCK,
Committee.

The following extract from the report of Superintendent Philbrick, in the annual report of 1872, is of interest as a brief résumé of the history of his attempts for years to promote the study of drawing in the schools, and of his hearty indorsement of the plans of Professor Smith. Of the importance of the study the superintendent speaks with no uncertain sound.

During the last year great progress was made in this branch, both in the evening industrial drawing schools and in the day schools of all grades, from the lowest primary classes to the highest classes of the high schools. For many years we had been trying in a moderate way to teach drawing in our public schools. Fifteen or sixteen years ago, in order to improve the instruction in this branch, I procured from England at my own expense a set of copies and models, for which the school committee refused to pay. The models nobody that I could find knew how to use, and they were given to a primary school to be used in object lessons. From the copies, by the kind assistance of Mr. Bartholomew, who was employed to teach drawing a few hours a week in the girls' high and normal school, I prepared the Boston primary drawing tablets and slates for primary schools; and although I was to receive no pecuniary benefit therefrom, their introduction was strenuously opposed by some members of the board of high social and literary standing. I mention this curious fact to show how little the true scope and utility of drawing as a branch of common school education was known by those who might be supposed to have the best understanding of the matter. Their reasoning was this: "Drawing is a fine art, an accomplishment, an educational luxury for the wealthy classes; the public schools are for the children of the poorer classes, who must work for a living. What have they to do with making pictures? Let them stick to the three R's." When we consider that it was scarcely twelve years from that time that the legislature enacted a law requiring drawing to be taught in all schools, on the ground that it is the true fundamental element of all industrial education, we cannot but feel that the world does move.

When Mr. Bartholomew brought out his drawing books we were enabled to take a new step forward in the right direction, but it was not a very long step. There was no great interest in the subject, nor were its nature and objects clearly understood and appreciated. Drawing was taught in the high schools, except the Latin, by special teachers, and it was required to be taught in all the lower grades. But what was done was uphill work. In the mean time we were greatly occupied with other reforms and improvements more fundamental and more important still. At length the time came for vigorous measures for perfecting the instruction of drawing in all our schools. For this purpose *new instrumentalities* were needed. The first of all was a standing committee of the board, to give special attention to its development. Such a committee was instituted, and it went to work in earnest. The evening industrial drawing schools were established as required by law. The schools were examined in drawing; an exhibition of drawing was ordered. But still another instrumentality was necessary to carry forward the work.

WHY MASSACHUSETTS SENT TO ENGLAND FOR A COMPETENT ART DIRECTOR.

A thoroughly accomplished *art master* was wanted to be the director and supervisor of this branch, a man thoroughly trained and thoroughly experienced in all branches of art education. After long negotiations, such a man was at last secured in Mr. Walter Smith, of England, one of the very ablest graduates of the Normal Art Training School at South Kensington, who had for many years successfully conducted art schools—a man of broad art culture, of extensive knowledge of the methods and systems of different countries, of practical skill in teaching, of tact in the handling of classes, of organizing power, of executive ability, of business capacity, of immense working force, and of a noble professional ambition. This is the sort of a man the committee on drawing had the good fortune to secure. This was an immense step in the right direction. It is easy to make regulations, but the essential and difficult thing is to get the right men and set them to work. From the arrival of Mr. Smith, last October, a new epoch began. In saying this, I would not abate the tithe of a hair from the credit due to other faithful workers who preceded him, and who are so efficiently and earnestly coöperating with him.

The Normal Art School, in Appleton street, for the instruction of teachers, was at once opened, the beneficial effects of which were immediately visible in the improved methods and aims in teaching drawing in all our schools. Our teachers deserve great credit for their hearty coöperation in developing this branch of instruction. It was natural that there should be some grumbling, for there are always some who are averse to any extra exertion or any interruption to established routine. But the exhibition of drawing last May seemed to give great satisfaction, and put everybody in better humor. The glory, however, of last year's labors and efforts was seen in June, at the Girls' High and Normal School building, when *five hundred of the teachers* of our primary, grammar, and high schools, voluntarily presented themselves for an examination of their qualifications for teaching drawing; for the success of the whole scheme depends upon the competency of the mass of the teachers to teach this branch to their classes, aided and assisted by competent supervisors.

HOW THE NEW STUDY WAS PUT IN OPERATION IN THE SCHOOLS OF THE CITY.

The general plan of carrying on the teachings is the same as that which has been so triumphantly successful in our musical instruction. A general supervisor at the head, to plan and direct, with a corps of four or five assistants to teach personally in the highest classes of the high schools, and to aid in teaching the teachers and inspecting, examining, and supervising the work done in all the lower grades of the schools, the committee on drawing, of course, being the power over all. As to the details respecting the examinations, programmes, and expenses, the report of the committee furnishes all needed information.

The path is now clear and plain in the main. Just now there may be some teachers who do not fully see how to carry out the programmes which have been made. But this is only a temporary difficulty, and it will no doubt soon be overcome. If modifications in the requirements are found by experience to be necessary they will be made. Only a little patience is wanting. Extra pressure was inevitable in the introduction of so great an improvement. For the time drawing may seem to some to engross too much attention and time. But this is only a temporary phase of the matter. For one I have no fear that our scholars will be the losers. When drawing is properly understood and properly taught it will be acknowledged by every enlightened mind to be an indispensable element in the education of every human being "*whatever may be his destination in life.* Here general education and technical education coincide. The child needs drawing whether he is destined for a course of liberal culture or for any industrial pursuit."

The third annual report of the standing committee on drawing in this report of 1872 is enthusiastic over the successful inauguration of the system under Professor Smith. It pronounces the normal class for teachers held by Professor Smith as "the most important step taken by the city of Boston in the art education of the public schools," and publishes long lists of names of the teachers who voluntarily attended the normal classes, and received certificates for work in "free-hand," "model," and "memory" drawing. They chronicle also the arrival of the collection of "casts, models and examples," imported from England by the city for the use of the free evening drawing classes. A list of casts is given. These comprised a few reduced copies of antique statues and busts, many bas-reliefs, casts of portions of the human body and of many natural objects, such as clusters of berries, fruits, and leaves; there were also several examples each of Greek, Roman, Renaissance, Gothic, Byzantine, Saracenic, and Venetian architectural ornaments.

The collection also embraced nearly a thousand flat examples, in crayon, colors, sepia, both French and English, and forming a very complete set in that department. A large portion were mechanical or architectural, and these have been used at the school at the Institute of Technology.

These were opened to the public view and excited much interest.

The committee regret that a State normal art school has not yet been established. Their report ends with a plan of instruction in drawing for the public schools for 1872–'73, arranged by the supervisor, Prof. Walter Smith.

The second semi-annual report of Superintendent Philbrick, which is included in the report of 1874, begins thus:

Having been elected to the superintendency of the Boston public schools on the 22d of December, 1856, I entered upon its duties on the 10th of the following January. After a service of nearly eighteen years in this position, I come now to present my final report to the board, and in doing this it seems to me proper that I should attempt to review, to some extent, this period of the history of our school system.

In this historical report he briefly recites the history and present condition of the study of drawing in the schools. This portion of his report is here given in full:

The nature, objects, and utility of drawing, as a branch of education, are as yet but very imperfectly understood and appreciated in this country. It is still very generally regarded as an ornamental study, of little use in practical life, which may be allowed to pupils who have time on their hands after having acquired a competent knowledge of what are ignorantly deemed more useful subjects. If, recently, more has been done in this community than in previous years to promote instruction in drawing, it is because it is beginning—*only beginning*—to be seen that it is an essential branch of general education in all its degrees, and also the foundation of all technical and industrial education; that it is a thing of use in every department of business and in every condition in life; that it is in itself an expressive language, easily depicting to the eye what no words, however well chosen, can represent; that it is the best means of cultivating the power and habit of accurate observation, and of developing the perception and the love of the beautiful in nature and in art; that it is indispensable for the architect, the engraver, the engineer, the designer, the draughtsman, the moulder, the machine-builder, and the head mechanic of every craft; that it gives a training to the eye and hand which everybody needs; that it is a special help in teaching writing, as expressed in the Pestalozzian saying, "Without drawing there can be no writing;" that it is calculated to afford invaluable aid to the inventive genius of our people; that it is an instrument for illustration in teaching which should be in every teacher's hand; and that, if properly taught, it more than compensates for the time it takes, in facilitating instruction in other branches.

As instruction in drawing, in its relations to the development of the human faculties and to the promotion of industrial interests, comes to be more generally understood, it will doubtless meet with less opposition. While I would advocate the claims of this branch, first and foremost, on the high ground of its value as a disciplinary instrumentality, as a means of general culture, as affording a training necessary and desirable for every individual without regard to his destination in life, yet its positive value in dollars and cents to a people like ours, largely devoted to industrial pursuits, is by no means to be ignored. It is well known that in England the value of manufactures has been immensely augmented by means of the system of art-education which was inaugurated in that country about twenty-five years ago. And the best of our authorities in industrial science now agree in the opinion that Massachusetts cannot maintain her prestige as a manufacturing State without the aid of art-culture. The only adequate basis of the needed art-culture is a thorough system of drawing taught in all public schools.

The superintendent proceeds to give a concise account of the condition of the study in the schools of Boston, from the year 1827 to 1856, as follows:

It is a long time since drawing has been recognized as a branch of study in our public schools, but it is only within a short time that it has been rendered efficient. It was first introduced into the English High School, where it was, from 1827 to 1836, a *permitted* study in the upper class, and subsequently an obligatory one. But, until 1853, as there was no special teacher of drawing, it received little or no attention. As one of the results of Mr. Mann's report on foreign education, the school committee of Boston, in 1848, placed the *word* "drawing" on the list of grammar school studies. As the teachers were almost universally ignorant of this branch, and as not the slightest provision was made for teaching it, either in the way of a programme, text-books, or special teachers, next to nothing came of this action. The prevailing ignorance in regard to the subject was only equalled by the indifference respecting it. If a progressive teacher tried to get up a little drawing in his school, he was likely to get for his pains a gentle rebuke from his committee, and some blame from his fellow teachers. At length, special teachers on drawing, on very small salaries, were appointed for the English High and Girls' High and Normal Schools, at the time of the establishment of the latter institution. This was the first practical step towards securing instruction in drawing; but for a long time only the meagrest results were produced in those schools, owing to the apathy on the subject which the special teachers had to contend with. In the mean time, "drawing on slates" had been set down among the requirements in the primary schools. But when I made my first official circuit of visits to those schools the use of a slate in them for any purpose was an exceptional phenomenon, and not a line of drawing was discovered. Thus it will be seen that in 1856 we could barely be said to have made a beginning in two high schools, and not even so much could be said for the primary and grammar schools.

Mr. Philbrick recounts his own personal efforts, as long ago as 1856, to obtain from the Art Department of the English Government, a small collection of drawing copies, models, and drawing books, to serve as patterns for use in the Boston schools; the indifference of the school committee, who declined to reimburse this expenditure; his preparing drawing slates and tablets for use in the primary schools; and, finally, the adoption in 1864, of drawing as a required study in the city schools.

Feeling that light on the subject was needed, I procured from the Art Department in England a lot of drawing copies, models, and books. It was really a valuable collection, though small, and the price was comparatively trifling; and yet so indifferent were the committee to the matter that they declined to defray the expense. The Boston primary school drawing slates and tablets were soon after prepared by me, simply because there was at that time absolutely no apparatus to be had at all suitable for the purpose of instruction in drawing in the primary schools, where the foundations ought to be laid. In justice to myself, I beg leave to say here that I received no pecuniary benefit from the use of these things in the Boston schools. They were very slowly introduced, at the option of the district committees, as they were requested to do so by the more enterprising and capable teachers; and the use of them did not become general and effective until it was made obligatory in the new programme of studies, which was adopted in 1864. Just before this, Mr. Bartholomew's books were introduced into the grammar schools, and so there was now in operation a graded system from bottom to top. It was very imperfect, no doubt, but it was a real beginning. There was a programme and there was apparatus in the primary schools; there was a series of books, not without merit, assigned to the grammar schools, and there were special teachers for two of the three then existing high schools. Drawing was gradually growing in favor. The new programme for the grammar schools, which went into operation in 1868, laid down a graded course of instruction in drawing for those schools. And Mr. Bartholomew, the special teacher in the Girls' High and Normal School, who had labored faithfully to create an interest in drawing, held voluntary meetings in different parts of the city for the purpose of illustrating his method of teaching.

At last, in 1870, the subject was seriously undertaken by assigning it to a special committee; then, and not till then, it became the duty of some particular persons to interest themselves in the matter. "Everybody's business" had become somebody's business, and for the first time, began to be properly attended to. In this there is a practical suggestion available for other communities.

Other reforms had hitherto demanded so much attention that drawing was necessarily left rather in the background. But at length the time came for taking hold of it in earnest, and placing it on a proper footing. As the reform in music began by the appointment of a standing committee on the subject, to defend it and look after its interests, so in this movement the same plan was adopted. There was of course a battle to be fought before a standing committee on drawing could be agreed to; but it was finally appointed, and it entered upon its work, vigorously, early in 1870. Their hands were strengthened and their duties increased by the legislative act of the 16th of May, making the teaching of drawing obligatory, and requiring industrial drawing schools to be set up in all the cities and towns in the State having 10,000 inhabitants and upwards. The former of these provisions had already been anticipated in Boston. Fortunately, the facilities afforded by the Massachusetts Institute of Technology, both in respect to instructors and accommodations, rendered it practicable to open evening classes in industrial drawing, on a liberal scale. Eight teachers were employed in the efficient departments of freehand and mechanical drawing; the whole number of pupils instructed was about 500, the average attendance being 380. The cost for the season amounted to $6,014.84.

With the annexation of Roxbury and Dorchester, two high schools were added to the system. Each of these was provided with a special teacher. Each of these teachers, in addition to the duty of giving instruction personally in our High School, was required to inspect and supervise the instruction in drawing in one of the five districts into which the grammar schools of the city were divided for this purpose. These special teachers were also to teach the regular teachers in their respective districts how to teach this branch. The organization of the musical instruction, which had proved a success, afforded a model for the management of drawing. The essential feature of the plan was, to require the teaching in all, except the highest stages, to be done by the regular teachers, under the direction of competent experts. The drawing committee, in their first report, say, "The great success which has attended the efforts of the committee on music to make each teacher a competent instructor in that art, convinces us that we must have the same system in drawing." As many teachers neglected drawing in their schools, under the plea of want of time, the board adopted an order requiring one hour a week to be given to its instruction in the primary and grammar schools.

Thus the organization and plan of management, as it now exists, was completed, with the exception of a general director and supervisor. The results of this year's labors under this system were presented on the 30th of April, 1871, in the first exhibition of drawing which was held in Horticultural Hall. All the work exhibited was taken from regular class exercises, which had been done without any expectation of an exhibition. The result showed very gratifying progress, and greatly stimulated and encouraged the friends of art education.

The superintendent goes on to show how the need of an experienced and capable director, who could organize the new study and systematise the methods required for its practical introduction in all schools, made itself felt, and resulted in the calling of Walter Smith to fill this position. The account of the first three years of his administration and of the surprising results effected by him, is clearly told. A concise statement of the conditions as existing in 1874, closes this part of Mr. Philbrick's report.

But in the minds of a few of the foremost advocates of this course there had been for some time a conviction, that our staff of drawing teachers needed a reinforcement from a foreign source, none of them having enjoyed the advantages of a regular training in an art school, or even of a personal examination of the methods and processes of art instruction, where it had been fully developed and perfected. This conviction resulted in securing Mr. Walter Smith, a graduate of the Normal Art School at South Kensington, London, and subsequently art master at Leeds, as supervisor and director of our system of drawing.

Three years ago he entered upon the work of his office, bringing to it copious knowledge of his profession, large experience, and executive ability of a high order. He brought into our service a thorough acquaintance with the experience of England, during the last twenty-five years, in developing a great system of instruction in industrial art. In four ways he has greatly contributed to the progress of drawing in our schools: (1) By diffusing information in respect to the scope and practical utility of drawing; (2) by organizing and conducting efficient normal training classes for the teachers of the public schools; (3) by reforming the programmes of instruction in all the grades of schools, including the industrial night classes; and, (4) by supplying the needed books, examples, and models through his publications, purchases and recommendations. Great progress has been achieved, but not without friction and difficulty, owing to the conflict of pecuniary interests, the expense incurred, and the extra drafts made upon the time and strength of teachers.

Difficulties in such a work were inevitable, but they might, perhaps, have been more easily overcome by distributing the work accomplished in three years over the space of six. The regular teachers, as a body, deserve great credit for their earnest and persevering efforts to qualify themselves for teaching this branch. Their success, as shown in the exhibition of this year, as compared with that of 1871, has been most extraordinary.

The result attained after so many years of effort may be summarized as follows:

(1) A standing committee on drawing.

(2) Teaching staff: general supervisor, seven special instructors, employed as teachers in the high schools, and local supervisors of drawings in the grammar and primary schools, all the regular teachers in the latter schools, and a part of the teachers in the former, qualified to instruct their own classes, and eleven special teachers employed in the evening industrial drawing schools.

(3) Programmes adapted to all classes and grades of pupils, comprising the appropriate subjects, duly arranged and coördinated.

(4) Text-books, copies, and models adapted to the courses of instruction laid down in the programmes.

(5) A completely organized system of evening industrial drawing schools, with

accommodations and apparatus, regulations and instructors. Average number taught last winter, 538.

(6) Regularly organized normal drawing classes, held on Wednesday and Saturday afternoons, where the special teachers give instruction to the regular teachers, of all grades, in drawing and the art of teaching it.

(7) Efficient instruction actually given in all grades of our schools, from the lowest primary class to the highest in the high schools; but further time is needed to bring it up to the standard of excellence aimed at.

(8) Four annual exhibitions of drawing have been held, each showing marked progress from year to year.

The following is substantially what is aimed at in the several grades and classes of the schools:

"*In primary schools.*—First year: To learn the names of *geometric forms* and lines. To draw on slates any simple form the teacher asks for, without being shown. To learn the meaning of terms and expressions used in drawing, as vertical, oblique, &c.; angle, triangle, &c.; to draw simple things from *memory* and from *dictation.* All work on slates.

"Second year: To learn same subjects as in first year, but make fairly good drawings. To have object-lessons illustrated by drawings. *Dictation* and *memory* drawing of geometric patterns. Simple designs made of straight lines and simple curves. All work on slates.

"Third year: To learn to draw on paper. A recital, on paper, of what has been learned before. To learn the names of the *geometric solids,* as sphere, cylinder, cone, cube, &c., *but not to draw them.* To draw with readiness from memory and dictation forms previously drawn from copy. To design new combinations from copies already drawn.

"*In grammar schools.*—First year: To apply the elements learned in the primary schools to drawing, viz, the geometric definitions to *geometric drawing,* and the definitions and names of solids to *model drawing,* the latter from blackboard only, and of curved forms only. Free-hand drawing of botanical analyses of plants, giving the common names of parts of leaves and flowers. Simple designs in geometric forms, the latter made with compass and square, thus applying geometrical drawing to practical use.

"Second year: To go on with the same studies in more advanced stages, as free-hand outline design, geometrical drawing, model drawing of both curved forms and objects bounded by right lines from the blackboard or from books, sketches being made on the blackboard by the teacher and explanations given.

"Third year: Advancing to the drawing of ornament and objects of historical character, as Egyptian lotus form, Greek bases, &c., names to be remembered in connection with forms, and to be drawn, when required, from memory.

"Fourth, fifth, and sixth years: During the last three years of the grammar school period the subjects to be studied are free-hand drawing and design, geometrical drawing, model drawing, and free-hand perspective, so as to learn the names and expressions used about perspective before taking it up in the high schools. Half way through the grammar school course to take up model drawing from the solid object instead of blackboard, *i. e.*, at the end of third year. Dictation and memory drawing occasionally.

"Design with half-tint backgrounds in fourth, fifth, and sixth years. (Outline design only having been previously drawn.)

"Botanical names and forms to be also taught. Names of colors and first principles of their harmony, complementary colors, &c.

"*In high schools.*—First year: Linear perspective by use of instruments. Parallel. Botanical lessons, illustrated by diagrams in color.

"Lessons in harmony of color by diagrams. Model drawing from the solid object, in light and shade, half-tint, cross-hatching and stump. Lectures on styles of architecture, without drawings being made, to learn the names, dates, localities of each style.

"Second year: Linear perspective, angular. Design in harmonious colors from flowers and foliage. Drawing from plants in outline. Object drawing in one color, as fruits, &c., from flat copies and from casts.

"Third year: Linear perspective, oblique. Painting from flowers and fruits, from nature. Study of human figure in light and shade, from copies. Drawing foliage, from plaster casts. Applied design for manufactures, as carpets, lace, paper-hangings, pottery, glass, frescoing, metal work, &c.

"Fourth year: Lessons in painting, from nature, of landscapes. Drawing from plaster casts of human figure. Lessons in styles of architecture and lectures on schools of painting. History and practice of industrial art. Lectures on design applied to manufactures.

"*Evening industrial drawing schools.*—Stages and subjects of study: Stage I. Instrumental drawing; *elementary course* from copies, and *advanced course* from real objects or design. Stage II. Free-hand outline drawing of rigid forms, from flat examples or copies. Stage III. Free-hand outline drawing, from the round or solid forms. Stage IV. Shading, from flat examples or copies. Stage V. Shading, from the round or solid forms. Stage VI. Original design."

It is very natural that there should be some apprehension that the attempt to do so much in this branch of education would rob other studies of the time and attention which belong to them. It is of course necessary to guard against this danger. It is a nice point, demanding careful and judicious discrimination, to give to each branch its appropriate share of time and attention. In determining how much time can be spared for drawing, we should take into account, not only its intrinsic value, but also its utility as an aid in other studies; we should consider how much time we have gained by improved methods of handling studies; and we should understand that some other studies—geography, for example—have claimed a disproportionate share of time. The time has come when there ought to be a rule, fixing the time per week to be allotted to each study or group of studies, so that all may be duly attended to.

The expenditure for drawing, for the year 1873–'74, including both day and evening schools, has been $31,835.52, exclusive of drawing-books furnished to the children.

The following extracts, discussing the methods of Professor Smith and the utility of the study, are from the report of the drawing committee for 1874:

The programme of instruction prepared by the supervisor designates the text-books which are to be used in the several classes. In a carefully graduated system of instruction, such as his, the absolute fitness of each book to a special class of scholars depends upon the degree of efficiency which such class is supposed to have attained, through study of the book or books allotted to the class or classes below it. If these have not been studied, difficulties supervene which are not contemplated. If the child attempts to run before he has learned to walk, he is sure to fall. The same fate must be shared by pupils of upper classes, who use advanced books without having passed through those of a lower grade.

It is self-evident that we must wait a few years until scholars in the high school come to their work fully prepared for it by the course of instruction which they have undergone in the primary and grammar schools, before we can test the value of Mr. Walter Smith's system, and pronounce upon its absolute merits. It has already accomplished enough, under very imperfect conditions, to warrant the belief that it will eventually obtain the approval of all competent and unprejudiced judges. Processes of education can no more be forced by our impatience than processes of nature. We must be content to wait for results until the time comes when they may lawfully be expected. First the seed, then the plant, then the ear, then the full corn in the ear. We might as well expect to turn a boy into a man by clothing with the "toga virilis," as to suddenly mature the wits of young children by putting advanced books into their hands. The abnormal stage through which we are at present passing, in regard to drawing, is the consequence of our having been obliged to fit a new and graduated system of instructions upon an old and graduated system of schools. If we recognize the stage as transitional, we shall not come to hasty conclusions; and, knowing that time will make all as it should be, shall suspend our judgment for the present.

Those persons who are so far behind the present age as to look upon drawing as an accomplishment may, nay, will, doubtless consider the annual expense of teaching it in the public schools as extravagant, and, from their point of view, we most heartily agree with them. We, however, as heartily disagree with them from our point of view, and do not fear a condemnatory verdict from the men who know how important the study of drawing is to the advance of the best interests of a great manufacturing State like Massachusetts. Many of the children in her public schools must hereafter win their daily bread by trades and professions which demand an elementary knowledge of the arts of design, while the artisans and mechanics who avail themselves of the opportunities for instruction in free-hand and instrumental drawing, so freely offered to them in the evening schools of the city, acquire a knowledge which will double the value of their labor in the market. With these material advantages, which all can appreciate, the study of drawing unites others, both physical and ethical. Into the first category enter those advantages to the body which are procured by the exchange of studies or labors of a drier or more fatiguing nature, for an attractive employment, which, by freshening the mental powers, induces a more healthy physical condition. Into the second category enter those advantages to the moral nature which arise from the eminently refining influences of art upon all who are in any degree led to study it. Such study superinduces a love of nature, and the pleasure derivable from it, as from art, which, as Emerson admirably says, is "nature passed through the alembic of man," is of the purest and most elevating character.

Most people walk through the world as do those "who have eyes and see not;" for "sight is a faculty, seeing an art." The myriad beauties which lie around them are hidden from their sight, and they are thus deprived of infinite sources of enjoyment which the study of form and color in nature and in art would reveal to them. From these premises we draw the conclusion that few studies offer such various advantages to the young as that of art, since it promotes their physical, moral, and intellectual growth, and at the same time increases their material prosperity. The study of art can be pursued to but a very limited degree in the public schools; but even this, if thorough as far as it goes, will enable the student to continue it, if he have leisure and inclination to do so, with a hope of success which he could not have, had he not been well grounded in the elementary branches.

If, then, we give due weight to the above-mentioned reasons why drawing should be made a branch of public education, and know that to teach it under the present system costs the city about two mills a day for each scholar, we shall hardly consider the total expenditure extravagant. This, for the year 1873-'74, including both day and evening schools, has been $31,835.52, exclusive of drawing-books furnished to the children; $17,685.34 of this amount was absorbed by the salaries of teachers. A portion of it was spent in the purchase of permanent material, which will be available for a long period, such as the primary school cards, which ought to last for ten years to come, the manuals and the instruments used for geometrical drawing. The sum of $424.93 was paid back to the city, by the pupils attending the free evening drawing classes, for paper, pencils, &c., which they had purchased during the winter. While the other free evening schools supported by the city have cost $24,096.04, the free evening drawing schools have cost but $9,649.19. This is certainly not a large proportion for the maintenance of four schools, which furnish very valuable instruction to a class of persons whose advancement is so important to the Commonwealth.

The report discusses in detail and at some length the evening drawing schools, urging their value; it closes thus:

Every year sees the teachers of the public schools better able to give instruction in the elementary branches of drawing, and the desired end of throwing the burden of art instruction into their hands is thus being gradually approached. When that time comes it will be possible to reduce the staff of special instructors in some degree, provided that those who continue in office have over them an efficient and highly competent head, such as they now have in Mr. Walter Smith, whose invaluable services it is hoped may long be retained.

In behalf of the committee.

CHARLES C. PERKINS, *Chairman.*

In the report of 1875 the school committee call attention to the practical bearing of the study of drawing on the industries of the State.

The theory that the popular education best adapted to this country must combine, with intellectual culture, some form of industrial training which shall enable youth to enter promptly upon the average practical duties of life, has for some years received encouragement in our schools in the only forms which appeared feasible, viz, in instruction in sewing and drawing.

The former was introduced into a few classes of girls' schools in 1854, and has been found to be of the highest advantage to the pupils, without seeming to interfere in the slightest degree with the long-established studies.

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Drawing has not, by a considerable class of people, been recognized as an industrial study, it being common to hear the phrase "ornamental branch" applied to it by members of the school committee and masters, as well as by that portion of the general public who have vague notions that it still retains its ancient signification of the expenditure of valuable time over impossible landscapes and unnatural prancing horses, whose delineation had but an exceeding remote relation to the earning of an honest livelihood.

In truth, the systematic instruction in drawing, which is yet in its infancy in America, may be considered one of the most intelligent and important additions to the practical education of the working classes, whose children constitute so large a majority of our public pupils, which has been attempted in the history of education. The bane of society has always been in the mass of people who are destitute of any industrial skill. Our schools have furnished the heads tolerably, but have left the hands comparatively powerless, and hence have steadily sent into the active world multitudes who were sufficiently educated to be dissatisfied with their social stations, but who have had no capability of using their knowledge in improved forms of labor, which should at once appease their reasonable ambition and make them contented with being honest work-people.

It is said that the greater number of our poorer children intend to follow the trades of their fathers; but that is simply to assert that they are to swell the mass of crude labor which is equal to only the average brute drudgery of life—to driving carts, carrying hods, shovelling in gravel pits, and the performance of similar toil. We want those children to do better work than their fathers, and the use of the compass and pencil is one of the instrumentalities by which they are to find openings into the sort of skilled labor from which New England must draw its future prosperity as a manufacturing and mechanical community. The journeyman mason who can delineate and read plans is on the road to becoming a master mason; the carpenter who is not obliged to work by "rule of thumb," but can interpret the architect's sketch into the language of his trade, and can express in lines and shadows his own conceptions of a building, is in the order of promotion to the dignity of a contractor; and the operatives upon textile fabrics, who have learned the principles of design, may hope to take the place of and receive a share of the high salaries at present paid to the imported designers upon whom our manufacturers have been absolutely dependent. There are numerous trades from which France, Switzerland, and Germany derive an ample revenue, and whose products are liberally bought by our New England people, which might increase the comfort and thrift of thousands of our own households were the children possessed of the technical education by which they could artistically and tastefully combine forms and colors. The supply of this education is the great object of the study of drawing. The moral elevation which results from familiarity with beauty and grace in nature and art is also a considerable element in the instruction, not to be undervalued, but the most hopeful immediate consequences are to be looked for in the improved efficiency of American artisans, whose field of opportunity will be enlarged in proportion as their fingers are trained to deftly execute the commands of an observing eye; eye and hand being especially educated in drawing.

The report of the drawing committee is directed to showing that the study is calculated also to meet the demands of those who desire that the element of beauty shall be cultivated. The suggestions as to the adornment of the high-school rooms with casts and engravings, need be, by no means, limited to the schools of Boston; at least, that much of beauty in the rooms in which so large a portion of the youthful years are passed is within the reach of every community:

In view of the approaching reorganization of the school board, and consequent changes in all standing committees, the drawing committee desires that the report now respectfully submitted may be found to show that such substantial progress has already been made under the present system in the branch of education committed to its charge as to encourage those who may hereafter direct it to persevere in the same course, with confidence in its fitness to accomplish the aim which the city has in view, namely, the training of the children at the public schools in drawing and design.

This training of young eyes to see correctly, and of young hands to reproduce or combine forms, simple and complex; this teaching of a new language, the silent and eloquent language of form, is begun in the primary schools, conducted on a higher plane in the grammar schools, and carried as far as possible in the high schools, where efforts should be more and more directed towards awakening a love for the beautiful in nature and art in the minds of the pupils.

As this end is more and more plainly attained, we are convinced that the public will be more and more disposed to regard the course pursued by the drawing committee with a favor which in its present incomplete workings, it cannot be expected to meet with on all hands. The persons who shake their heads dubiously are those amongst us who regard purely mechanical drawing "as unworthy of State interference"; who think that industrial drawing should, from the first, have in it a pronounced artistic element, and who regard any system as unsatisfactory which does not do what is here impossible, namely, surround children with beautiful forms of art, and lead them to appreciate their most subtle qualities. We are indeed of opinion that to grow up in an atmosphere permeated with beauty would be immeasurably advantageous to the rising generation. It would make our future citizens like those of Plato's republic—men and women who, from loving beauty as a principle, for itself, would rise to an appreciation of divine beauty, and thus, guarded against all low tastes and desires, would reach an ideal status. Unfortunately, under the conditions imposed upon us, such high possibilities can only be aimed at in a very limited degree. In its present efforts the drawing committee must perforce confine itself to the task of laying the bricks and foundation stones of education in art; it has not the means to purchase such desirable reproductions of standard examples of plastics form and ornament as are necessary to illustrate the higher principles of art; it must work with dull tools and scant materials, hoping only that what is done, however little, may serve to prepare the way for better and higher things in the future. By and by, when the Museum of Fine Arts shall offer the teacher a place where he can illustrate principles of form and color to his pupils through artistic masterpieces, the then existing drawing committee will be placed on a vantage ground whence it can direct public education in the arts of design, on a scale and with a success impossible under present conditions. Something more, were the means provided, could be done at present by enriching the high schools and evening drawing schools with good examples of form and color. Four bare walls and reams of paper, with pencils and rubber *ad libitum*, are not all that is needed. The teacher must have other appliances if he is to teach effectively. He needs hot-house flowers, when the fields have ceased to produce wild flowers, that he may talk about plant forms intelligibly and show their proper application in industrial design. To purchase these, as well as casts, flat copies, and models of all sorts, a sum of money might well be spent annually by the city, and at the same time contributions be solicited for the same purpose from all who are interested in art education.

Every high school ought to have a large, well lighted room, appropriated to drawing, fitted with proper desks, and supplied with such examples as are mentioned above. It should contain a few casts of the finest Greek statues and bas-reliefs, as well as of ornamental work of the best periods; also casts from nature, of heads, hands, feet and limbs, together with others of architectural fragments and metal work. Of flat copies it should have a selection from such works as M. Ravaisson's Studies from the Antique, Gérôme's Cours de Dessin, Liévre's Cours d'Ornement," &c. With these materials, the instructors could effectively carry out the intention of the city in providing them, namely, to make them serve to develop the unquestionable faculty for design existing in our people—a matter of vital importance to our manufacturing community. The duty of doing so has been recognized by the State and city, but as yet the means provided are not adequate.

The adoption of a sound system of progressive instruction is a great step towards it, but if the principles laid down in the text-books are to bear fruit, a great deal must be done in the way pointed out above. The only one of our high schools which has as yet been put into anything like a favorable condition for the purpose is the Girls' High School, where the frieze of the Parthenon, given by Mr. James M. Barnard, and the casts of antique statues and busts, given by many private individuals to adorn the exhibition room, are available for study.

A room specially arranged for drawing has lately been opened in the upper story of the building, under the charge of a highly qualified teacher; and a programme of studies, embracing plant form, historical ornament, and cast drawing in charcoal and crayon, has been prepared for the upper classes. All this will soon enable the public to judge of the superior results obtainable in a school properly equipped. We cannot doubt that these will be such as to convince every one of the necessity of putting all the high schools in the same favorable condition.

Then will come the turn of the grammar schools, whose raised condition will push the high schools up to a still higher level. Thus in course of time we shall see graduates from the high schools, who, having commenced their education in the Kindergarten or the primary school, have advanced to a really high state of attainment.

With such a prospect in view we can afford to bear the doubts and cavils of those who would crown the edifice before they have laid the foundations, content to see proof, in each successive exhibition, that we have taken a wiser course in gradually adjusting a systematic course of instruction to the schools, and in planning and advising each successive step, meanwhile never losing sight of the goal, however distant it may now appear to be.

The committee point with pardonable pride to the results obtained after only four years of the experiment, since, in that short time, forty-one schools are provided with teachers amply qualified to teach the new study.

Is it not something which the city may be proud of that at the examination in the spring eighteen head masters obtained a full diploma; that in twenty-three grammar schools, whose head masters did not obtain the full diploma, it was obtained by the head assistant or a teacher above that grade; and that over a thousand teachers from the schools passed examination in at least one subject? In consequence of this in all but nine schools we now have some one qualified to give instruction in the five subjects of free-hand, model, and memory drawing, as well as in geometry and perspective, without the assistance of any special instructor, unless in exceptional cases.

Four years ago not a master or a teacher in any one of the schools could have taught more than one of the subjects above named. Instruction could only be given by special instructors, who, had any such general scheme of instruction as is now possible been attempted, would have had to be multiplied to such an extent as to render the teaching of drawing in the public schools impracticable on account of the expense. Now we have forty-one schools where instruction can and will be given without one dollar's additional cost to the city.

The aggregate expense attending the instruction of drawing during the past year, 1874–1875, exclusive of drawing-books, was $30,187.34, being $1,648.18 less than the previous year, of which sum $31,608.67 was paid for salaries. The salaries of the teachers of drawing in six evening schools amounted to $8,730. The cost of material for the day and evening schools, fitting up new school, &c., was $8,578.67; of the amount expended in the evening schools $472.81 was returned to the city treasury for pencils, paper, rubber, &c., purchased by the pupils.

In regard to these evening classes, your committee desire to state that they hope by a more systematic organization to increase their usefulness. Here the problem to be solved is different from that offered in the day schools. Instead of entering upon a course of study which is to extend over several years, the pupils attend in many instances but for a single season, and not always regularly, dropping off generally in the spring, when mechanics find work at a distance from home; and, even if they remain in the neighborhood, cease to attend, because the lengthened days allow them to continue their work until too late an hour. For these reasons the drawing committee recommended that these schools should be opened in October instead of November, and be closed in April instead of May. The class of persons who frequent them desire instruction in instrumental drawing, building construction, ship-draughting, free hand, and cast drawing. In order that it may be effective, they need many more models and flat copies than they have at present.

Perceiving this need, the drawing committee appealed last autumn to the public, asking for gifts and loans. This appeal met with but a limited response. Valuable contributions were made by the trustees of the Mechanics' Charitable Association, by Messrs. Blake & Co., and by some private individuals, and to them we offer our grateful acknowledgments at the same time that we express the hope that others will follow their generous example. Having no annual allowance to be spent upon models, these schools are dependent on public charity for everything but the localities in which they are held, and such materials for work as paper, boards, pencils, &c. We are convinced that to make this fact known will suffice, and that the Appleton street school will not long continue to be the only one which is at all adequately supplied.

In behalf of the committee.

CHARLES C. PERKINS,
Chairman.

BOSTON, *September*, 1875.

REORGANIZATION OF SCHOOL COMMITTEE.

In 1875 a law was passed providing for the reorganizing of the school committee of Boston, which had consisted of 118 members, chosen by wards. The new law provided for a board of 25 members, to be elected on a general ticket. Superintendent Philbrick, with improved health, was again chosen as superintendent by the reorganized board, and thus, after an interregnum of 18 months, was his own successor, the place not having been before filled subsequent to his resignation. His report bears date December, 1876.

Much space is given to the topic of drawing in the regular report of the school committee for 1876. The explanation is made that the usual heliotype reproductions of school work heretofore given in the drawing committees' reports are omitted this year because the best drawings, which would otherwise be reproduced, had been sent to the centennial, "where, it may be added, they attracted general attention and commendation."

The committee say that "time has only strengthened the general feeling as to the force of the arguments advanced in favor of this study, and made the weakness of those employed against it more and more evident."

The letters of the superintendents of Boston, St. Louis, and Milwaukee, then recently "published in the New England Journal of Education," are referred to as showing "that drawing is now heartily accepted as a necessary and useful branch of study, by men of acknowledged ability and experience in different parts of the Union," and as giving "strong evidence as to the efficiency of the system of teaching it, which we owe to our director of drawing, Mr. Walter Smith."

After quoting freely from the letters just referred to, the committee proceed to strengthen their position by the testimony of European educational authorities:

> Having now seen what is the judgment of three persons, who, as all will agree, have earned the right to be listened to when they discuss the fitness or unfitness of any system of instruction for school-use, we wish to quote some passages from the report of Professor Grundauer to the minister of public instruction in Austria, upon drawing in the public schools of Vienna, simply to show how close the parallel is between it and that of our own schools. The opening passage describes to the letter our own condition before the introduction of the present system:
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> "Drawing was formerly considered as an art of amusement, for whose successful study natural and special aptitudes were necessary. No one thought of teaching it according to a systematic method. Pupils were allowed to draw a little of everything, arabesques, flowers, monuments, machines, &c., and this without enabling them to comprehend the sense or the aim of their work. Experience has now proved that an *exact knowledge of elementary geometric forms* must form the general basis of all instruction in drawing, and that consequently for beginners, so soon as they have exercised themselves upon straight and curved lines, there can be no better study than that of regular figures formed by the division and combination of such lines. * * * Everybody now recognizes that drawing must be taught on a methodical plan, and that all purely mechanical processes must be avoided."
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> The object of school instruction in drawing and the method by which it is to be given are identically stated in the Austrian report of 1870 upon the pedagogical organization of primary schools, which we quote from the chapter on the teaching of draw-

ing, in M. Buisson's report on primary instruction, at the Universal Exposition of 1873, at Vienna:

"The object of this instruction is to form the eye and the hand of the pupils, to teach them to seize forms and masses clearly and to distinguish them surely; to exercise them in the linear representation of the relations of things in space, and the figuration of objects ending in plane surfaces, straight and curved lines; in short to make them capable of drawing objects of simple form in nature. Geometrical instruction, which is given in the middle and upper classes, comprehends the study of triangles, quadrilateral figures and regular polygons, of the circle, the ellipse, the prism, the pyramid, the cylinder, the cone and the sphere."

In Belgium as well as in Austria the proper foundation for the teaching of the arts of design is considered to be the study of regular forms, and it is precisely upon this basis that our system rests. Its more directly industrial aim is manifested by the study of design, which is begun in the primary schools and carried through the grammar into the high schools. In the first it deals only with regular forms, being in fact a simple exercise in their combination; in the second it widens its material by allowing the use of plant forms, and requiring attention to the laws of growth in dealing with them; while in the third it attempts greater variety, calls in the aid of colors, and takes a more evidently artistic aspect. The artistic can, however, be compassed to a very small degree even in the highest grades of our public schools, on account of the necessary limitations within which the study of drawing, if permitted at all, must be kept. It has been admitted as a means of giving correctness to the eye, accuracy to the hand and quickness to the faculties of observation. Such cultivation of the æsthetic instincts as special instructors and regular teachers are capable of giving, aided by the use of casts, flat copies and natural objects in the high school, is encouraged, and, when successful, highly appreciated; but it cannot, from the nature of things, be carried very far. Erroneous ideas about what drawing in the public schools aims at, and a hitherto unsatisfied desire for artistic instruction of a high order elsewhere, fully account for the opposition which has from time to time manifested itself to the adopted system; but we trust that the first are now dispelled by the explanations which have been given, and that the second will find their satisfaction in the school of art lately opened at the Museum of Fine Arts, under the direction of Professor Grundmann, from Antwerp.

The following extracts from the report are of interest and value both as illustrating the intelligent supervision of the committee over the work of the schools and the pains taken by them to secure thorough information, and also — especially in view of later developments — as showing the somewhat arduous labors of the special instructors in drawing, whose employment, though still necessary, is understood to be but temporary; 'for that drawing shall eventually be taught in all grades of schools by the regular teachers is an essential part of the plan of its general introduction in public schools.

Desirous of knowing the minds of the masters upon various points, the committee requested Mr. Charles Barry, one of the special instructors, to visit the grammar schools and obtain written answers to the following questions addressed to each of the masters:

(1) Are large models necessary to the successful use of the model books in your school?

(2) Do you desire to have a special teacher in drawing supervise the work done in your school?

(3) Can you mention any deficiencies in apparatus for teaching drawing in your school?

(4) Is the study of drawing according to the programme affected by promotions or other changes in your school?

The master of each grammar school, besides answering these questions, furnished statistics as to the number of pupils and teachers in his school; as to what proportion of teachers held full diplomas, and how many attended the normal art classes, and filled up blanks under the following heads: Name of teacher. Does he or she understand drawing well enough to teach it properly in her class? belong to any normal art class? hold any certificate of ability to teach drawing? Gives how many lessons per week? Is any drawing other than design done out of school? Time given to design in school and out of school. Is instruction given by the teacher upon the blackboard? Time given for model drawing from solids. Has ruling in this study been allowed? Are the principles of model drawing taught by the teacher from the blackboard?

The answers to these questions gave the drawing committee a great deal of information which was of use to them and the director in arranging the work for the present school year. For instance, in regard to the amount of supervision needed from the special instructors, including not only the examinations of drawings, but also counsel to the regular teachers, explanation of difficulties which they had not been able to overcome, &c. It had been found by past experience that many of the grammar schools in which either the master or one of his assistants had passed the drawing examinations and received certificates could not in the opinion of the master, dispense with visits from the special instructors. The thirty-six schools which asked for such monthly visits were accordingly divided between three of them, as the fourth, Mr. Hitchings, was to devote his time altogether to the English high school. * * * It will be acknowledged by any impartial persons who consider the amount of labor involved in the carrying out of this scheme by the special instructors that they have a great strain put upon them, and those who know that none of it can be dispensed with until the regular teachers are much more generally qualified to give instruction than they are at present, especially in the subjects of model drawing and design, will agree that to dispense with any of them would gravely compromise the ultimate success of these branches of study in the schools. This economical measure cannot be safely taken until the lessons given to teachers at the normal school by its master and by the director of drawing shall have enabled those who have not yet passed their examinations to obtain certificates by so doing. Many have already done so, and many who, having done so, still feel themselves in need of further light, return year after year to the normal classes with the most commendable zeal; but, nevertheless, as the statistics above quoted show, more than one hundred grammar school teachers have not yet passed their examinations. The normal classes have, however, been attended by more than three-fourths of the city teachers, and more than one-half have received certificates of competency to give instructions in drawing after examination. The effect of this shows itself in the more equal results obtained from the schools. On this point the director of drawing, in his notes on drawing for the year 1876, says with truth:

"There can be no more reason for the superiority of one school to another in drawing or music than in writing or arithmetic, and it is to be regarded as a sign of general advancement that the distinction obtained by certain schools in the teaching of drawing is becoming a thing of the past, without any deterioration on their parts. As all the teachers acquire skill in manipulation and experience in teaching drawing the few who used to monopolize this skill, and to display it by the attainments of their pupils, must expect to be equalled in the results reached."

Such a nearer equalization of results was perceptible at the annual exhibition of drawing in March last. To those who remembered former exhibitions sufficiently to enable them to compare it with them, it was clear that the teaching of the subject was more generally good, or, in other words, that the regular teachers had become more competent to give instruction.

The interest of the public in the last exhibition showed no abatement, but rather an increase upon that manifested in former years. During the three days of its continuance 30,266 persons visited the two halls containing the State and city exhibitions, and on the Wednesday afternoon additional police officers were required to regulate the ingress and egress of the crowd.

As the evidence afforded by this exhibition, both as to improved results and to the interest of the public in the subject of drawing in the public schools, may be said to be conclusive, and as the cause of the former is patent, we may congratulate ourselves on the increased facilities offered to teachers for instruction since the commencement of the present term at the normal school. In the large hall at the Rice school building weekly lessons are now given by the master, Mr. Dunton, and the director of drawing, Mr. Walter Smith, not only to the pupils of the normal school, but also to the regular school teachers, who until this year were taught by the director and the special instructors in school buildings situated in different parts of the city. Effort is thus centralized, the influence of the normal school widened, and its true mission more completely carried out. From this change we may look for excellent results, both to the normal school and to the regular teachers who are permitted to share in its benefits.

Among minor but at the same time important improvements in the drawing system we may mention the substitution in many of the grammar schools of large-sized models of geometrical solids for the small ones hitherto exclusively used. This was asked for by nearly all the grammar school masters, who felt that they were essential to the successful teaching of model drawing. The examination in this subject, which is shortly to take place, in accordance with the regulations of the programme, will, as we have reason to believe, show that they have been of great use. In concluding this part of the Annual Report which relates to drawing in the public schools your committee is happy to be able to state that its condition appears to be in every respect more satisfactory than at any previous period since its introduction under the present system.

The superintendent makes no reference to drawing in his report, but considers the cognate topic of "industrial schools" at some length. He refers to the fact that a special committee on that subject has been annually appointed since 1870, these committees have from time to time reported, but with no practical results except the extension of the provision for teaching sewing in the grammar schools. He also states that there was no legal authority for the opening of such schools by the towns and cities until the act of 1872, which gave the school committees discretionary power to establish such schools under certain restrictions. The superintendent quotes the law in full, and then says:

I have refrained heretofore from entering at length into the discussion of this subject in my reports, not on account of want of interest in it, but because while it was in the hands of a committee of the Board an independent treatment of it by me might be deemed an interference with their duties. Nor do I propose now to discuss it at any length.

A revival of interest in this matter has been recently created in this community. One cause of this revival is, no doubt, due to the establishment of the new Technical School, on the Russian plan, in connection with the Institute of Technology. I have great faith in that plan, and, as a member of the government of the Institute, I gave my vote for its adoption with great satisfaction. I had studied it carefully in its splendid exhibits at Vienna, from the great technical schools of Moscow and St. Petersburg, and was convinced that it was a "new departure" in technical education, and that it was destined to produce highly beneficial results. The principle consists in analyzing the processes requiring manual skill and teaching each process by itself to a class of pupils. It is substantially the same principle as that on which the division of labor is applied in manufactories; but in the manufactory the operative is limited to a single process, knowing nothing of thé other processes requisite for the product.

If it shall be decided to set up industrial schools in this city, as a part of our public school system, no doubt it will be found expedient to organize them on this principle.

The practical difficulties of teaching manual arts and trades in schools to the children of the people were clearly stated by a French writer on the subject a hundred years ago. He says, in substance, it is necessary to choose one trade or to choose several. Now, to teach the same trade to all would be to thwart the inclination of many children, and the inclination ought to be consulted in the choice of occupations, because one does with success only what one does with pleasure. On the other hand, how is it possible to teach different trades without multiplying infinitely the expenses of the schools, owing to the necessity of multiplying the number of masters?

Besides the cause above referred to as contributing to the present revival of interest on this subject, what appears to me to be another is the earnest and commendable purpose of a wealthy and public-spirited citizen to render education more practical by providing means for instruction in practical trades, to whom I attribute various articles on practical education which have appeared during the past year in the city newspapers. I have been hoping to see some definite and practical scheme presented from this source. For one I should welcome such a scheme. I have to confess that my inquiries have furnished me with no examples in this sphere which I can with confidence recommend.

The theory of our system of common school education is to give to the child that discipline, training, and development of mind and body, and that knowledge of the elementary branches of instruction, requisite to render him capable of pursuing any calling. Not that he should know any one trade, but that he should be fit for all; this is the essential thing. Then, at the termination of his schooling, he will easily form himself for whatever his taste or circumstances give him an inclination. I think this is a sound theory, and, therefore, I should deprecate any attempt to put the workshop into the school, the inevitable result of which would be to make a poor school and a poor workshop. But judicious efforts to supplement the school by the workshop, to put the workshop by the side of the school, are to be looked upon, it seems to me, with favor.

To say that the instruction imparted in our schools is not practical or useful, because the pupils are not graduated shoemakers or tailors, is to talk sheer nonsense. Is not reading something practical? Is not writing useful? Is it not of some advantage to a youth, as a means to help him get on in life, to be able to add, subtract, multiply, and divide numbers? Perhaps the majority of the pupils must earn their bread by manual labor. Must we, therefore, in the education of these children, wholly ignore their spiritual nature? Must we treat the indigent child simply as an animated machine that has got to feed itself?

Still, it is highly important that teachers should try to make their pupils appreciate how much better it is for them to lay their plans for earning an honest and comfortable livelihood by manual labor than to crowd into occupations where they can expect only genteel poverty. The best lesson which the school can give is that persistent hard work of hand or brain, or both, is the only means of true success in life, and to instil into their minds the sentiment that will make them

Scorn delights,
And live laborious days.

Rev. Dr. Bartol, of this city, has said some very excellent things on the subject of industrial education. The following is a report of the heads of his arguments in a recent discourse in favor of industrial education, by which term he meant such a use or action of the body, especially the hand, as will unfold the mind:

"The first argument was from nature itself, and the second from physiology, the connection of the mind with the flesh. The third argument was the economy of health; and the fourth, that industrial education is the condition of honesty. Fifth, it would solve this question of intemperance; and, sixth, it would banish poverty. Seventh, industrial education would be a divining rod to detect mechanical or artistic genius and talent, which is now mostly left to the discovery of chance; and, eighth, we learn this lesson from experience, from the history of our community and country. Ninth, industrial education is the only thing to be relied upon for that new desire of the time, especially in our own nation, the emancipation of women. Tenth, it would be the diffusion among all classes of useful knowledge. Eleventh, industrial education would be happiness; and, twelfth, it would be human fellowship. Thirteenth, industrial education is the best preparation for that hereafter which we call Heaven. His last argument was that industrial education would secure self-possession; to know what to do in an emergency is the test of a man. In conclusion, he said the hand is nothing of itself; it is like the valve of an engine; it is the register of the mind. The mind is the regulator of the motive power, but the register is the test; the register will determine the destiny."

Education would be as perfect as the condition of our humanity would permit, if it could be made to combine all the peculiar advantages of both the city and the country. This can never be done, but some approximation to it may, and should, be made. To do this, the country boy and girl must be better instructed in the usual school curriculum, and the city boy and girl must be better trained, industrially and physically. The city reformer paints in too vivid colors the advantages of country children (I speak from experience), and the country reformer exaggerates the advantages of the city education.

The approval by Dr. Philbrick of the Russian plan of technical schools, his discriminating comments upon the proposition to teach trades in the elementary public schools, and finally his statement of the real worth and practical importance of the education now given in these schools, are worthy of more than a passing consideration; because they are the well-considered words of one who has had great experience and wide observation at home and abroad, and who is an acknowledged authority, both in the United States and in Europe, upon all matters relating to the education of the people and the management of free public schools.

As the deliberate expression of the judgment of a successful educator, both as a teacher and as the executive director of State and city school systems, who has ever shown himself wisely progressive, and to whom is largely due the initiation of the movement which led to the successful introduction of the study of drawing in the public schools of Massachusetts, they appeal to all who desire to form intelligent conclusions upon the questions at issue.

In their zeal for the promotion of industrial training it is possible that some may unwisely underrate the real work and present usefulness of the public schools; by seeking to gain too much they may, like the dog in the fable, lose substantial good in vain eagerness for a shadowy possession.

In all the arguments adduced in these volumes by the present writer in favor of an advance in the methods of school training, the desire has been not in the slightest to derogate from the past usefulness of the common schools of America, whose value and influence for good can hardly be overestimated, but to show that they are now fully capable of adapting themselves to the new conditions rapidly developing in all parts of our country.

That industrial drawing, a knowledge of which lies at the basis of any thorough training in most of the mechanic arts and industries, can be taught in all the public schools without in any way lessening the usefulness of the schools, the writer fully believes to have been satisfactorily demonstrated in many of the cities and towns in all parts of the United States. So much seems secured. That sewing can readily be taught, seems also to be the verdict of the Boston schools.

That much in the way of the "minor arts," as he terms them—artistic industries—can be accomplished by quite young children by occasional lessons in special classes, without in any way interfering with the regular studies of the schools, Mr. Leland claims to have shown in Philadelphia.

That graduates from the grammar and high schools can rapidly acquire thorough training in technical industrial schools, is proven by the success of the schools attached to the Massachusetts Institute of Technology.

So much, and it is a great deal, has been demonstrated since the Boston school authorities called Walter Smith to their aid. When one considers the wonderful advance in the character of the instruction given, as well as in the kind of and number of studies taught, in the common schools of New England that had taken place between 1820 and 1870—as shown in the report made by Superintendent Philbrick in 1871*—there seems no reason to doubt that in time the public schools will adapt themselves to the new needs of the coming years. That this will be done by putting the workshop in the school and teaching trades to little children, one may as yet be permitted to doubt.

The report for 1876 of the special committee on drawing was occupied with the programme of studies as arranged for the different schools.

The report of the committee on drawing for 1877 is mostly occupied with a consideration of the subject of "special instruction."

As this report shows clearly how absolutely essential it is, that the regular teachers shall all be competent to teach drawing, and how difficult it is to induce them to acquire this knowledge, unless it is made an essential requisite for retaining their positions, after the educational authorities have provided the opportunity of obtaining such knowledge, it may be of use to the educational officials of other places who may desire to introduce the new study, and is therefore given in full, omitting only local details of assignment of instructors to the different schools:

At a meeting of this board, held May 8, an order was submitted by the chairman of the committee on salaries, by which the committee on drawing was requested to "consider the advisability of reducing the number of special instructors in drawing in the public schools, and report thereon at the first regular meeting of the board in June." In accordance with this order, the committee has carefully considered the subject in all its bearings, and in the light of special information prepared for its use has concluded that any such reduction, at the present time, is highly undesirable, and would be absolutely detrimental to the best interests of a study whose importance in school education is every year more and more widely acknowledged. As at least three-quarters of the children in our public schools are destined to get their living in industries which demand a knowledge of drawing, it behooves those who are appointed to take charge of this branch of instruction to do what they can to enlighten those who, from a want of knowledge of facts, are inclined to advocate changes.

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* See Appendix A, No. 4.

In an address delivered before the Brooklyn board of education a few months since, Mr. John Cullyer said that there are now four fundamental studies required to fit children for practical life, namely:

(1) Reading, because it is the means of teaching and acquiring knowledge;

(2) Writing, because it is the means of expressing knowledge;

(3) Arithmetic, because it is the means of computing knowledge and values; and

(4) Drawing, because it is the language of form in every branch of industry, from the most simple to the most complex.

"A boy or girl who can draw," said Mr. Cullyer, "has acquired *one* qualification for *nine-tenths* of the occupations into which all labor is divided." These words sufficiently set forth the importance of drawing as a study and fix its claims upon public support.

The hearty commendations given to our system of teaching drawing by the superintendents of public schools at St. Louis and Milwaukee, as well as by our own superintendent, in letters from which extracts appear in the last annual school report, give us ground for believing it to be efficient; and the testimony which these letters afford, that in the opinion of men best qualified to judge, drawing, so far from interfering with other studies, such as writing, arithmetic, geography, &c., is of positive assistance to them, fairly disposes of a ground of attack which persons who do not appreciate its wide bearings are prone to take.

The following concise statement of the kind of drawing taught, admirably suggests the practical applications of the new study:

The sort of drawing which we teach is no amusement, or special branch of culture, neither does it require any peculiar artistic aptitude. It should rather be called graphic science than art education, as it is based on geometry, and is of a thoroughly practical nature. It is equally indispensable as a basis for such knowledge as is needed in all industries, and for that higher knowledge required in the arts of design. From the nature of our public schools, we treat drawing in them from its utilitarian side, and are able only in a very limited degree to blend the æsthetic with the purely practical. The former is, however, not lost sight of in the upper classes of the grammar and high schools, and, indeed, is recognized as a principle in our system of instruction, which, throughout, teaches how to combine forms into patterns, first formed of geometrical elements, and then of plant forms. Thus it has a bearing upon the manufacturing interests of this community, and these can only be vivified by the cultivation of public taste. By and by many of the young minds, for whose training we are responsible, will have to deal with those interests, and it will be in obedience to the impulse given to them in our public schools that they will either raise or degrade them. As a matter of material gain, this question of uniting art and industry is now looked upon all over the world as paramount. The material argument in favor of it is epitomized in a story told by Mr. Dresser, the well-known English writer, in a lecture delivered before the Pennsylvania Museum of Industrial Art last autumn. "I remember," he said, "a lecturer on art at the old Central School of Design in London, showing three marmalade pots, in each of which a pound of the best Dundee marmalade was sold. The first, a plain jar, cost 14 cents; the next, which had a thistle embossed on its side, but the jar was still white, cost 18 cents; while the third, which was decorated with a colored spray of the orange, was worth 24 cents. Yet neither decorated jar cost the maker two cents more than the plain one. Art, then," said Mr. Dresser, "has a commercial or money value."

This is not the place to dwell upon these lower or upon the higher objects of art education, and we have, perhaps, trespassed already too much on the patience of the board in the above hasty remarks. We desire now, in a few words, to set forth the special object of this report, namely, why the committee on drawing recommends the reëlection of all the special instructors for the ensuing year.

The strong reason against any reduction in their number is this, that the regular teachers are not yet competent to teach drawing without help. That this is so, and is known to be so by the masters who have the best opportunity for forming a judgment, is easily shown, as follows:

Last year the drawing committee asked all those masters who desired the services of a special instructor to say so under their respective signatures. Thirty-three said *Yes*, and their request was complied with. This year the same question has been addressed to them, and forty-eight have answered in the affirmative, plainly showing that the fifteen who endeavored to get along without assistance have found it impossible to do so. With the additional demand which must be met, the drawing committee should rather ask for the appointment of another instructor than recommend the removal of one of those now employed. * * *

Those members of the board who desire, for economical reasons, to see a reduction made in the number of special instructors, will reasonably ask, Is this state of things to continue indefinitely?. The committee answer that the possibility of a future change rests in their hands. Let the board make attendance upon the lectures given every year to the teachers of all grades, by the director of drawing and the master of the normal school, obligatory, and the first step will have been taken towards the desired end.

To show that this measure is necessary, it is only necessary to submit the following figures: Out of 1,029 teachers, 191 have passed no examination; 32 have passed in one subject; 81 have passed in two subjects; 184 have passed in three subjects; 129 have passed in four subjects; 412 have passed in five subjects.

These figures show that considerable less than half the teachers have obtained certificates of competency to teach the whole course of drawing as laid down in the programme. At first sight it may seem hard to oblige persons who have so little time which they can call their own, to give up any portion of it to study; but there is really no choice in the matter if the city wishes to diminish the amount of special instruction in drawing and in music. If these branches are to be taught in the schools, they must be well taught; and although many of the teachers have attended the lectures given for their benefit with conscientious diligence, there are still many who never have, nor will do so, while the choice is left in their hands.

Fully impressed with the necessity of the case, the drawing committee recommends the adoption of the following order:

Ordered, All teachers who have not yet passed their examinations in *those branches of drawing* appointed to be taught *in the grade of school to which they belong* are required, unless specially excused, to attend the lectures given to primary, grammar, and high school teachers, by the director of drawing and the master of the normal school, until they shall have obtained certificates of their competency to give instruction according to the programme.

On behalf of the drawing committee.

CHARLES C. PERKINS, *Chairman*.

JUNE 12, 1877.

In the report of the school committee of 1878 the fact of the consolidation of the special committees on music and on drawing is stated, and also that most of the special instructors in each of these branches have been dispensed with, as the regular teachers of the schools, having had normal instruction for several years, are prepared to teach these studies as well as the other required studies.

From their remarks upon industrial education the committee seem to be impressed with the desirability of having trades taught in the schools. They say:

> The question of teaching trades in our schools is one of vital importance. New England once had a monopoly of the manufacturing interests in the United States, and her fabrics found ready markets in the remotest portions of the Union. To-day the people of the sunny South weave into cloths the product of their soil, and throughout the far West is heard the hum of countless factories. If New England would maintain her place as the great industrial center of the country, she must become to the United States what France is to the rest of Europe, the first in taste, the first in design, the first in skilled workmanship. She must accustom her children from early youth to the use of tools, and give them a thorough training in the mechanic arts.

This volume contains the reports of two superintendents: that of Mr. Philbrick, dated February 28, 1878, and that of Mr. Samuel Eliot, his successor, dated September 2, 1878.

Upon the subject of "over education," Mr. Philbrick's remarks are so pertinent, and, although not directed to the subject of drawing or industrial education, furnish such a sufficient reply to some of the objections that have been urged against these studies, that they are here quoted:

> The obligation of the State to provide the means of instruction for the children of the people is founded upon the acknowledged fact that the diffusion of intelligence and virtue is conducive to the public welfare. The advocates of the most liberal provision for education are not at the present day under the same necessity, as in times now very far in the past, of drawing their arguments from the nature of things. They are now able to point with confidence to results. * * *
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> The history of national education during the present century fully justifies the well-known saying of Jules Simon: "The first people is that which has the best schools; if it is not the first to-day it will be the first to-morrow." During the past quarter of a century this truth has been repeatedly illustrated both in war and in peace. It has been made especially conspicuous in all the universal expositions which have been held. In fact, this saying of the French statesman, who was characterized by George Sumner as one of the most acute and discriminating of modern writers, must now be accepted as axiomatic; and it is as brilliant as it is true. It is not only true of States, but it is also true of smaller communities. So we may say with truth: "The city which has the best schools is the first city; if it is not so to-day it will be so to-morrow." It may not be first in population or wealth, for these things depend largely on natural causes, which human effort cannot control; but it will be first in the essential elements of social well-being.
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> It has been, I doubt not, the instinctive apprehension of this truth on the part of the controlling majority of the people of this city, which has sustained its school system for so many years with so much liberality—a liberality which has become proverbial—and has justified the adoption of those measures of improvement which have given the system the celebrity which it enjoys. And thus has come to exist the fact that the Boston school system is the distinction, the glory, and the strength of the city. The wisdom of the policy which has produced this result has been abundantly justified. I hope and trust that the same liberal policy will be pursued in the future.

The following paragraphs may be commended to the attention of all such exceptional persons as seek to persuade themselves that this is a country of class distinctions, and then assume, without warrant, that they belong to a superior class:

> But it is well known that some signs of a reactionary tendency have begun to appear in certain quarters, especially in utterances from the platform and press. So far as I have been able to discover, these reactionary utterances emanate either from enemies of popular education, or from its injudicious and not well-informed friends. Both these classes deal in the same misrepresentations of facts, the same absurdities, the same platitudes, and the same exploded theories.
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> They superciliously ask, "Are we not educating the people too much?" I ask, in turn, "Who is meant by 'We'?" For my part, I do not know of any particular class of persons in the community who have the right to say "*We* educate the children of the people." Certainly, in the city of Boston, if official statistics are to be relied upon, only a small part of the taxes for the support of the schools is paid by those citizens whose children are not educated in those schools. In view of this fact it is the height of presumption for the small class of citizens who do not avail themselves of the advantages of the public schools to pretend that they are educating the people out of their pockets. And that class of citizens who claim to be the tax-payers ought to be intelligent enough to understand that it is the education of the people more than anything else that gives value to the property on which they pay taxes.
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> If any particular citizen thinks his own children are getting too much education for their good, his proper remedy for the evil, as it seems to me, is to take them out of school, if they have arrived at that stage of schooling which the law requires. But the controlling majority must rule, and if this majority comes to believe that the educational advantages of their children are too good, and decide to curtail them, they will be acting according to the democratic principle of our system of government. It is for the people themselves to say how much they will expend for education, and not for any particular class of the people to arrogate to themselves this prerogative.
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> If children were boarded and clothed at the public expense while attending school, it is easy to see that the thing might be overdone; but so long as tuition alone, or tuition and books only, are furnished, and parents are obliged to dispense with the labor of their children and support them while attending school, there is no danger whatever that they will keep their children in school too long for their good, except in some individual instances, which general arrangements cannot regard. The general tendency has everywhere and always been in the opposite direction. People are suffering, not from being too well educated, but from not being well enough educated. The idea of devising a scheme of education which shall educate the children of the masses up to a certain point which shall be just sufficient to render them self-supporting and useful drudges, without exciting in them the desire to rise in the social scale is utterly futile.
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> What I have said above in regard to the cause of the exceptional liberality of this city in respect to the support of public schools is not a complete explanation of the matter. In addition to the operation of the instinctive perception of the tendency of education to promote the general welfare, a more personal and private motive has had a great influence in relation to this matter. I refer to the fact that the overwhelming majority of the well-to-do citizens, and those who exercise a controlling influence in municipal affairs, as well as of those who actually vote the appropriations, educate their children in the public schools; and they feel that it is better and more economical to keep the public schools up to a standard which shall meet the wants of substantially all classes than it would be to keep them down to a pauper level for the children of the laboring classes, and provide for the instruction of their own children in private schools. I rely largely upon this feeling for the perpetuity of the educational liberality of the past and the consequent maintenance and advancement even of the present standard instruction in the public schools.

The new superintendent, Mr. Eliot, thus refers to the retirement of his predecessor:

> Mr. Philbrick, as master and superintendent, has been more identified with our system than almost any one before him, and no one who comes after him can hope to leave a broader mark upon it. He is, and long will be, missed by those associated with him in common labors.

In Mr. Eliot's general consideration of the situation he comes to the topic of industrial education, in regard to which he seems by no means so confident as are the school committee, judging from their expressions already quoted. He says:

> Such are some of the simpler means by which I think the efficiency of our educational work can be increased. I have not yet so much as thought of the expedient which appears to be more popular than any other; but it may now be considered briefly. Public education, it is alleged, once useful, has become, or is becoming, ornamental; it includes many things inappropriate, while it omits many appropriate to its purpose. This purpose itself, we are told, is perverted. Instead of fitting our boys and girls to earn their bread, and making them serviceable to themselves and others as working-men and working-women, we are turning them into scholars and artists, and throwing them as almost helpless burdens upon society. They should leave school so well trained for the different industries as to have no difficulty in entering upon them without the delays of pursuit or apprenticeship. If this is what a useful education means, — and everything else, physical, mental, and moral training, so far as it does not fit those who receive it for manual labor, is ornamental,—then it must be confessed that ornament is the characteristic of our system. But there may be a far more widely useful tendency in such a system than in anything to which we may prefer to give the name of practical. If we could but spare ourselves the common mistake of thinking ornament useless, we should be spared a good many unsound arguments against ornamental education. Is there anything in human nature or human training more useful than "the ornament of a meek and quiet spirit"?
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> Were industrial education tried in the way usually recommended, it would, I fear, not only fail to remove our difficulties, but add to them. Introduced into our existing schools, it would increase the pressure already too great, or multiply the shortcomings already too numerous, in the studies now taught, while it would find so slender opportunities for itself as to turn out in all probability the most imperfect branch of all. Schools are not, and cannot be, workshops or kitchens. They can provide benches and tools where a certain number of boys may be occupied, perhaps really instructed, in handicraft. Or they can set up a range, at which a few girls may be taught cooking of a general character. But it may be doubted if there is a mechanic in Boston who would think much of mechanical training in a common school, while it may be taken for granted that no housewife would consider school cookery of any practical advantage there or elsewhere. If industrial education is to be given, it should be of a more substantial sort. It needs its own schools, to which our boys and girls may be admitted when they are old enough to profit by them, let us say at the high school age, when, instead of attempting the higher studies, they might be better employed in manual occupations. We should then have industrial schools parallel with our high schools, yet independent; a better plan, I think, than making them mere fragments of the grammar schools.
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> Even then, however, and admitting all the advantages of industrial education, we are not bound to admit that the city should provide it. It is of just that character which will flourish better on private than on public soil. It needs specialists to found it, and specialists to build it up, so that it may do its work effectively. If given by these, and to those who really feel the need of it, it will be saved from a great deal of waste, waste of energy and waste of money. It will also receive a larger share of general confidence, and, in return contribute more to the welfare of

> the community. There is no greater mistake in education than in clamoring for the State to do what can be done better by individuals. If it must provide training for labor, it may soon be called to provide labor itself, and then we shall have a sad experience of full-blown communism,
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> The something that infects the world.
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> If the object is, as sometimes stated, to make labor respected, it will hardly be secured by making labor dependent on public education. By such education one reaches only the forms, not the realities of labor, and if the former get into the place of the latter, if toil, under constant oversight, is supposed to be the same as that which oversees itself, then genuine labor is robbed of the respect which is its due. Shall we take boys and girls, just as they are, and train them manually, supposing that they will therefore learn to honor manual employment? Or shall we try to make them more than they are, and train them mentally and morally, in the hope that as they grow wiser and better they will attain a higher idea of the industries in which they will probably engage? There can be little doubt which of these courses will exalt labor in the long run. But it is to be frankly admitted that there is such a thing as exalting labor above its merits. Unskilled labor, the toil of an unthinking man or woman, followed only for the sake of the wages it brings, this deserves little respect, and we should do nothing to secure it any. Our best work must be to increase both the supply and the rewards of skilled labor, and there is no way so direct as the common lessons of the school. These, if well taught and well learned, will make men better mechanics, better followers of every calling; these will make women better housekeepers and mothers, or, if they are work-women, better work-women.
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> Industrial education is not the only educational panacea. But the few remarks here offered about it may suggest the spirit in which other special remedies are to be considered. Anything special is really out of keeping with a public-school system. If admitted, it should be very cautiously, and not a line beyond its essential relations with the system. If it can be turned from a special into a general study, it is in place, and should be cultivated by all the means we have; but if it must always remain special, requiring to be specially handled, then it should be dropped at the earliest opportunity. Such studies as continue special are always unsatisfactory. The part they bear in the work of the schools is not only a small one, but it is generally poorly performed, and the low standard of the special courses is sure, sooner or later, to depress the higher one of the general.
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> It is therefore for the interest of education to keep special teaching within moderate bounds. It is equally for the interest of economy to do so. Such branches, though not the costliest absolutely, are much the costliest relatively, and if retrenchment is desirable anywhere, it is here.

Mr. Eliot evidently agrees with Walter Smith in the opinion that a study, to be of value in the public schools, must be one of the regular studies, which the teacher is competent to teach, and not an exotic.

The report of the consolidated committee on music and drawing is signed by Charles C. Perkins, chairman. Of the claims of drawing he says:

> Drawing is now generally admitted to be one of the four fundamental studies best calculated to fit children for practical life, and this not only because it is the language of form in every branch of industry, but also because by quickening the power of the eye to seize the forms of letters and words it helps children to learn to read, and by training the hand to represent forms it helps them to learn to write. Being thus important in itself as a means of expression, and as an auxiliary to the acquirement of other means of expression, it is really one of the most valuable studies pursued in our public schools, and we may trust that the time is not far distant when we shall cease to hear it spoken of as an accomplishment by those who are at present wholly

or partially blind to its practical importance. The director of drawing, Mr. Walter Smith, has well said that "No house was ever built, no steam-engine or steamboat ever constructed, no garden ever laid out, no ship ever planned, no tunnel ever bored, no machine ever put together, without its aid." It lies at the basis of all industry, as at the basis of all art, and the attacks made against its practice in the schools come from those who overlook the fact that it is as vitally linked with the first as it is with the last. That indeed is the only ground on which drawing can be taught in public schools.

Of the results of the system of teaching this study in the Boston schools the report says:

So much has been said of our system of instruction in drawing in previous reports that we need not expatiate upon it here. It has certainly produced remarkable results, and we have reason to be grateful to our able director, Mr. Walter Smith, who, with ample knowledge of the merits and defects of foreign systems, organized and shaped it to suit our peculiar circumstances. In the future it will be possible to carry it on at a reduced expense to the city. A saving of $3,600 has been effected by dropping three of the special instructors, but it is to be remembered that had we not had their aid in the past, the regular teachers would not have been, as they now are, capable of taking their places.

The following remarks suggest the existence of a feeling in opposition to the development of the æsthetic element of the study of drawing, and show through what ranks of opposition the friends of drawing, and Walter Smith himself, have had to force their advance—the artists averring that his plan was not sufficiently artistic; the Philistines, that it was entirely too much so; and both uniting to thwart its introduction and success:

We heartily join in the wish expressed by the superintendent, Dr. Eliot, in his annual report, "that the imagination had freer play in drawing, and that the books through which instruction is given were both more æsthetic and more elastic;" but at the same time we doubt whether they could be æsthetically improved without exciting opposition. Drawing in public schools is meant, we are told, to train the hand and the eye to exactness, and not to be taught with reference to its artistic applications; and that this is the feeling of many influential persons has been shown by the fact that even in the high schools, where the pupils of the graduating classes have been, to some extent, supplied with casts and flat copies of a high order, and with flowers and other natural objects calculated to excite a love of beauty in their minds, the effort to make the course more æsthetic has been spoken of in the school board, and in the newspapers, as illegitimate in school training.

Under these circumstances we hardly see any other possible course than that taken, which seems most certain to enable the study to maintain a foothold in the schools.

In regard to the special instructors, the report continues:

The committees on music and drawing, foreseeing the reduction in the number of special instructors which was made in the month of June, took pains to satisfy themselves beforehand that this step, which would place these branches of instruction on a new footing in the public schools, could be taken without risk of detriment to their efficiency.

Of the free evening drawing schools, the report says:

The free evening drawing schools were established for mechanics and artisans wishing to make up deficiencies in their education, which, as they feel, seriously interfere with their success in life. Skilled labor commands high wages, and skilled labor is what these schools should produce. With a view of increasing their utility the drawing committee would advise that the age of admission for boys should be changed from fifteen to seventeen years of age, as this measure will tend to prevent boys whose real age is difficult to determine from entering the classes and taking up room which might be better occupied; and, also, that a teacher should be allowed for every twenty-five instead of every thirty pupils, as this latter number hardly allows a teacher to give as much time to each pupil as is desirable, if the pupil be really intent upon hard work.*

In legislating for these evening schools we should not forget how much indirect good they do, by keeping so large a number of persons usefully employed, some of whom, without them, might spend their time not only unprofitably, but harmfully to themselves and the community.

In behalf of the committee.

CHARLES C. PERKINS, *Chairman.*

In the report for 1879 the school committee recount the efforts made to establish a free technical industrial training school.

A petition for such a school having been referred by the common council to the board of education, and by the board to a special committee, who reported favorably.

The petitioners urged the establishment of a system of schools and school shops to be supported by the city, in part, at least, and "permanently engrafted on our school system."

The school committee, in accordance with the recommendations of the report of its subcommittee, passed an order requesting the city council "to establish an industrial school in this city suitable for the education of young mechanics," and to appropriate $15,000 for fitting up and maintaining it for the year 1880-'81.

This was understood to be but experimental; if adopted and successful the establishment of a number of similar schools was contemplated.

The plan met with great opposition and was not adopted.

In the report of Superintendent Eliot occur some passages in an eloquent plea for the higher ideals of education, the development of the mind, the culture of the nobler parts of man's nature, which refer, incidentally, it is true, and rather as illustrations, both to the subject of "industrial education" and to drawing specifically. These are gladly quoted here, both for their intrinsic value and because, in the endeavor to show the direct bearing of these studies upon material interests which occupies so large a portion of this report, the higher utility of these essential educational forces may often seem to have been lost sight of, if not purposely ignored.

There are some special reasons for urging the supreme importance of the mind in an educational system. We live among men to whom mental training is of little account compared with industrial. It is the hand, or the eye, or both, which they would train, rather than the mind. What, they ask, do children want to know of books, or what more than to read and write, reckon and design? They need to study tools, to learn the means of earning bread, to be prepared for trades; and schools which leave all this undone are not the schools for them. I do not state this in order to refute it, so much as to show how necessary it is just now to understand the claim of the mind upon the schools. It may be said, merely in passing, that the industrial faculties, if we may use such a term, are not bodily; that the eye and the hand are of no avail without intelligence, and that to train them, as we are called upon to do, without training the mind, is leaving Hamlet out of Hamlet. When Wordsworth was speaking with a mason about a smoky chimney, the mason said, "Maybe he has as much sense as most of us." It may be that the workman who has been educated as he ought will have at least as much sense as if he had not been. * * * One more example of the advantage in considering the mind, rather than anything else connected with a study, is found in drawing. This, too, is taught better when not making it or its books our end. Industrial drawing, the branch which we pursue, is not solely industrial. It is the application of art to industry, and therefore involves in some degree the principles both of art and of nature. Knowledge is everything; the imitation or repetition of knowledge is nothing. Drawing, which is merely imitative, is like any other performance of the same sort; like the lesson in geography or spelling, which consists of words or sounds alone. A draughtsman, worthy of the name, is one who thinks as well as draws. He has learned to observe, compare, imagine, and reason while learning to draw, or else his drawing is an empty show, which dissolves as soon as his copies are left behind at school. Every lesson which his teachers give him, every fresh start his mind takes not only helps his drawing, but makes it. We talk here as elsewhere about organs, when we should be talking about faculties, or, better than talking, doing what is possible to bring out the intelligence on which all our members depend for their efficiency. Drawing is but expression, and expression without anything to express is but vacancy.

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* These orders were adopted by the school board on September 10.

The committee in charge of drawing and music describe in their report in plain terms the different kinds and sources of opposition to the system of drawing taught in the public schools, which was alluded to in the preceding abstract of the report of 1878.

In view of the acknowledged success of the experiment during the years that have elapsed since 1870, it seems indeed singular to meet with such evidences of a struggle in 1879. The committee reply very satisfactorily to the several objections as follows:

The consolidation of the committees on music and drawing during the past year has brought under one direction two studies, whose history in the public schools stands in striking contrast. With music all goes harmoniously. Neither in the school board nor the press does it meet with opposition or hostile criticism, either as concerns its importance as a study, or in regard to the method by which it is taught. From year to year it pursues its appointed course to the general satisfaction of all concerned, and receives warm expressions of approval at school exhibitions and triennial festivals. With drawing, on the contrary, there is no peace. Some persons, overlooking its industrial bearings, object to it as a study. They regard it as an accomplishment connected with the fine arts, and therefore unfit to be taught in public schools. Others make war upon drawing on account of the expense of teaching it, for which they can see no adequate return. Still a third party exists, who denounce the system by which it is taught, as mechanical, unartistic, and worse than useless. Could they manage matters according to their liking, they would turn the school rooms into studios, multiply special instructors, and provide fifty thousand children with casts, pictures, and autotypes, as well as colors, charcoal, and other artistic materials. It will readily be seen that between these three classes of critics the drawing committee occupies a somewhat unenviable position; and yet we have something to say in our defense to each one of them. Thus, for example, we would remind those who desire to suppress the study altogether, that every engineer, builder, designer, machinist, men indeed of all sorts of professions and trades, find their advantage in knowing how to draw; that drawing enters into every species of industry, and is really as important to mankind as reading and writing. To those, on the other hand, who think that instruction in drawing costs too much money, we would say, it is indeed our duty, as it is our desire, to carry it on as economically as possible; but where shall the line be drawn? Somewhere there is a proper limit, and this we have endeavored to find, by instructing the regular teachers so that they may be able to teach drawing without the help of special instructors; by adopting a system of instruction which dispenses with costly implements of study while training the eyes of a great multitude of children to see, and their hands to represent, the forms of objects correctly, and which, by teaching them to combine simple elements into patterns of a more or less geometrical character, has a direct bearing upon industry of incalculable value to the State.

Finally, to those who denounce the system because it is not fit for the use of art schools, we would quote the centennial report of the French commissioners at Philadelphia, which, after commending the exhibition from our public schools as "extremely remarkable, the most complete of all, and the most methodically arranged," goes on to say, that "Massachusetts does not propose to multiply the number of artists, but to create able artisans; not to procure a few talents in harmony with the best well-to-do population, but to give to the thousands of future workmen the sum of knowledge and aptitude which they need to increase the value of their labor, to get a larger price for their work, and finally to unite and perfect national industry. "Viewed in this light," it concludes, "the problem has been marvellously well solved by Walter Smith." Just as we think this appreciation of our adopted system of instruction is, we are by no means blind to the desirability of supplying the schools with casts, flowers, and fine examples of applied design, in order to supplement its teachings and give them life. Our thanks have been repeatedly given to those liberal friends who have given casts to the girl's high school, and have helped to make the room appropriated to drawing at the English high school somewhat more suited to its purposes; but we still wait for a similar opportunity to thank those who blame us for the unæsthetic nature of our system of instruction, although, with their convictions, we wonder at their neglect of so precious a chance of neutralizing what they look upon as its pernicious effects. We have bare walls and vacant corners in abundance which might be adorned with objects calculated to teach lessons of beauty to the children who would look upon them, were these, our critics, as eager to give as we are willing to receive.

Early in the year 1880, the school committee called upon the director of drawing for a report, as follows:

IN SCHOOL COMMITTEE, *February* 10, 1880.

[Extract from Proceedings, page 32.]

On motion of Mr. Perkins, it was

"*Ordered*, That the director of drawing be requested to prepare, for the first meeting of the school commitee in April next, a report upon the following topics:

"(1) The present condition of drawing in the schools of all grades, day and evening, with suggestions as to (*a*) teaching drawing in high schools by regular teachers, (*b*) arranging the course in evening schools for two or three years, and (*c*) any other points requiring consideration.

"(2) The duties devolving upon the director with regard to all day and evening schools."

Attest:

PHINEAS BATES, JR, *Secretary.*

CITY POINT, SOUTH BOSTON, *April* 12, 1880.

To the school committee of the city of Boston, Mass.:

GENTLEMEN: In compliance with the order of the committee, I submit herewith a report upon the condition of drawing in the schools of all grades, and the duties of the director with regard to those schools in the city of Boston, Mass. Accompanying it are records of statistics, illustrating the condition of day schools and their teachers, and also of the evening schools and their students since their first establishment, up to the end of the session of 1879-'80.

In this report I have endeavored to explain and illustrate general educational principles, to which details must be necessarily subordinate.

Having passed through all these grades of instruction as a pupil, been trained in them as a teacher, and taught them as a master, I submit these records and suggestions as having the merit of accuracy and the foundation of experience.

Respectfully submitted.

WALTER SMITH,
Director of Drawing.

This report, without the statistical appendices, was printed.* It is a *résumé* of the work of Walter Smith during nine years and, apart from its value practically to those who in other places may wish to introduce the study of drawing into public schools, or to establish evening drawing schools, possesses something of the interest that always attaches to the autobiography of a man of genius.

In the abstracts already given from the official reports of the city educational authorities the story of the initiation and progress of the experiment has been recited from their point of view.

In this report of the director himself we have a connected record of his methods and experiences, and, in the programme of a course of study for the evening classes, the result of his skill and knowledge derived from a practical acquaintance with the actual needs and capacities of the students who attend those classes, which can hardly fail to be of use in other communities.

In the preceding history of the relations of Professor Smith with the State of Massachusetts free use has been made of the official reports made by him as the director of art education.

The following entitled "Report on the present condition of drawing in the public schools of the city of Boston, in the year one thousand eight hundred and eighty, addressed to the school committee, April 13, 1880, by Walter Smith, director of drawing," is the only official report in print made by him during his official connection with the city of Boston as director of drawing. With the omission of a few details this report is given in full:

By an order of the school committee, passed on Feb. 10, 1880, I have been called upon to submit a report to it on two subjects, viz:

(1) The present condition of drawing in schools of all grades, day and evening.

(2) The duties devolving upon the director with regard to all day and evening schools.

After an employment by the committee of nearly nine years, during which period the direction of drawing in the public schools of Boston has been intrusted to me, I now, in compliance with the order quoted, submit my first report to the committee.

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* School Document No. 7. Report on Drawing. Addressed to the School Committee of the City of Boston, Massachusetts. By Walter Smith, art master, director of drawing in the public schools of Boston, by requisition of the school committee on February 10, 1880. Boston: Rockwell and Churchill, City Printers, No. 39 Arch Street, 1880. pp. 65.

The subject of drawing in the public schools, and my duties and relationship to it, is a broad one, capable of comprehensive treatment, and inviting the statement of much detail, historical and personal; but it appears to me that the committee will be better satisfied with a brief and clear statement of facts, accompanied by some practical suggestions, than by a full relation of past experience or elaborate explanations.

I. CONDITION OF DRAWING.

In order to be concise, I have therefore avoided in the body of this report the statements of facts and statistics of details upon which its general conclusions are based, and have preferred to furnish them as appendices to this document, for those who are further interested in the subject to study at their leisure.

The first part of this subject is, "The present condition of drawing in schools of all grades, day and evening."

The time is opportune for asking and giving information on this topic.

Previous to 1870, drawing had been more or less practised in the public schools. But its aim appears to have been indefinite, having no distinct tendency in any direction, educationally, either towards artistic or industrial ends. Yet, in taking up the subject at all, this city was a pioneer, feeling for what was right. It made greater progress than could have been expected under the difficult circumstances — that as a pioneer it had not the example of other cities, but had to make its own experience.

In 1870, guided by what had been done in Boston, the legislature of Massachusetts took up the subject, and by the passing of an act, commonly called the industrial drawing act of 1870, not only defined the nature of the instruction by calling it industrial, but required that it should be taught to all pupils in the public schools of the State.

This act made it a branch of general elementery education, like reading, writing, or arithmetic, which involved the radical principle that it should be taught by the regular teachers, who gave elementary instruction in other subjects of general education. It furnished authoritative information as to what was to be done, and who were the persons to do it.

This was the project. To realize this project and execute it in the schools involved the adoption of a system of instruction carried out upon a defined plan.

But in the year this act was passed, 1870, the drawing committee of this city stated in its printed report: "We have had no system. Shall we have a plan, or shall all be done at random?"

A scheme of instruction, like the building of a house, *must* have a plan; and both alike must have a solid foundation, or they will fall into ruins.

The simile holds good further. We must begin at the foundations before superstructures are possible; we must build up slowly to ensure safety, each part being allowed to settle and rest firmly on that beneath it, before it can support that which is placed above it.

The first thing to be done, then, was to provide a plan. That work was intrusted to me, and was done by me in the year 1871. I now proceed briefly to describe it.

The subject of drawing was to be made as popular and as useful, practically and educationally, as other elementary subjects. Its basis was to be as broad as industry, and its application as general as industrial writing or industrial arithmetic, which we all find of use, though few of us devote our whole lives to the pursuit, entirely, of one subject or the other. The field of operations was the public schools, and the ground to be covered was the period of education in them. These schools are either general or special, the general schools being the primary, grammar, and high schools; the special are the normal and evening drawing schools.

The time occupied in them was assumed as follows: primary, 3 years; grammar, 6 years; high, 3 years; normal, 1 year; evening drawing, 2 years.

In the general schools the subject had to be treated generally, and to be taught by the general or regular teachers; in the special schools it becomes a specialty, to be taught by special instructors.

Development of the plan, therefore, contemplated from the first the removal of any special characteristics from the subject of study, and of special instructors from giving the instruction in the general schools, eliminating both the specialty and the specialists from the common schools, where they have no right to be, except as a temporary expedient, and giving both the subject and the instructors a fuller scope and development in the special schools to which they naturally belong.

The two distinct groups of schools would therefore have to be so treated in this plan that their purposes should be recognized and their capacities developed. neither interfering with, but supporting the other, like stones in an edifice, or like links in a chain.

This plan, though formulated at first, has been gradually unfolded at fast as it could be safely carried out; or, to continue our simile, the working drawings from the architect's office have been furnished to the builders, as story upon story has been added to our educational fabric.

The schemes which have been issued and acted upon during the past nine years have been therefore only parts of the complete plan, to do what was then practicable, and be a preparation for the future. They have been tentative in the higher classes until the preparatory work done in the lower necessitated an advance.

Thus, beginning with the lowest or primary grade, and advancing to the next or grammar grade, drawing as a specialty, and special teachers either to teach or supervise, have been entirely banished from them; and now the work is general, done by the regular teachers.

This has taken nine years to accomplish, and at midsummer, 1880, every pupil graduating from a grammar school to enter a high school will have received in the primary and grammar schools the nine years of study on the graded plan, which will make it possible now, for the first time, to take up the proper high school work successfully.

This, therefore, is the opportune time to take the specialism out of the subject in the high-school grade, and the special teachers, who symbolize its special character, out of the high schools.

And, in like manner, and from the same causes of progress, it becomes possible to make the work in the evening classes more directly special, and to employ special instructors who are teachers by profession, and not amateurs, to do the work.

The high school section of this general plan has been issued during the present school year, and the evening school programme accompanies this report.

Upon each of these groups of schools something will be said further on, in the subdivisions *a* and *b* of this subject.

Upon the general subject of the condition of drawing in the day schools, it is necessary to define *what* had to be done, in order to understand how, and how much of it is being done.

The two prime objects to be secured by the new organization were: (1) To create a plan of instruction in drawing which should make it distinctly industrial; (2) to instruct the regular teachers so that they might be able to give the instruction, without the aid of special instructors, as part of their regular school work.

Concerning these two objects I desire to make the following statement:

(1) *The creation of a plan of instruction.*—This has been a matter of growth, and it was not at first issued in a complete form. We all had to begin at the beginning, and the advanced features of a graded scheme were not possible at first, because the elementary instruction and practise on which it must be based had not been given.

The publication, therefore, of a plan which is quite practicable, and most of which is in operation now, might have seemed visionary then, and its comprehensiveness would have discouraged the teachers by a knowledge of the wide area of study contemplated for final accomplishment.

But the whole scheme was completely formulated, if not disclosed, before we began, and each step taken and subject added has brought it nearer to completion.

Thus the gradual unfolding of the plan included the practice by all, teachers as well as pupils, during 1872, of free hand, model, and memory drawing; in 1873, geometrical and perspective drawing; in 1874, elementary design, and in 1775, of applied design.

Since that time there has been added shading and coloring in the high schools, and drawing from growing plants, applied design and perspective, in the graduating classes of grammar schools.

The adoption and execution of all plans up to this period have been tenative, to do what was possible under the circumstances, and be a preparation for the future; and up to the present time those features of a graded plan which belong to the high and evening schools have not been possible.

The work which forms the basis of such a plan in the primary and grammar schools is complete, and can be administered by the regular teachers. That for the high and evening schools is yet to be developed in practice by the teachers.

Concerning the industrial and practical nature of the plan, and instruction given upon it, there is no difference of opinion among competent judges.

The second part of this scheme was:

(2) *The instruction of the regular teachers, that they may give the instruction as a regular part of the school work, and dispense with special instructors.*—To understand how and how much this has been accomplished involves a short recapitulation.

The following propositions define the positions taken on this question of industrial drawing in the public schools:

(1) All children who can be taught to read, write, and cipher can be taught to draw.

(2) Drawing, by the law of Massachusetts, is required to be taught to every child as an element of general education, like reading, writing, and arithmetic.

(3) As an elementary subject, it should be taught by the regular teachers, and not by special instructors.

(4) The true function of drawing in general education is to develop accuracy of perception and to exercise the imagination, thereby tending to produce a love of order and to nourish originality.

(5) Educationally, drawing should be regarded as a means for the study of other subjects, such as geography, history, mechanics, design. In general education it is to be considered as an implement, not an ornament.

(6) The practice of drawing is necessary to the possession of taste and skill in industry, and is therefore the common element of education for creating an enjoyment of the beautiful, and for a profitable practical life.

(7) In the primary, grammar, and high schools, drawing is elementary and general; in the normal and evening schools, advanced and special—for teaching purposes in the first, and for skilled industry in the second.

(8) Good industrial art includes the scientific as well as the artistic element; science securing the necessity of true and permanent workmanship, art contributing the quality of attractiveness and beauty. The study of practical art by drawing should therefore comprehend the exactness of science by the use of instruments, as in geometrical drawing and designing, and the acquisition of knowledge of the beautiful, and manual skill in expression, by free-hand drawing of historical masterpieces of art and choice natural forms.

(9) From this study so undertaken, we may expect a more systematic knowledge of the physical world, in history and at the present time; for through the sensitiveness to appreciation by the eye, and power of expression by the hand, of its phenomena, may come a knowledge of Nature's laws, a love of the fit and the beautiful, and that ability to combine these in our own works, which alone produces the highest form of art—originality.

(10) Drawing may now take its legal place in the public schools as an element of, and, not as before, a specialty in, education, at as little cost as any other equally useful

branch of instruction, with the prospect that at a future time as many persons will be able to draw well as can read or write well, and as large a proportion be able to design well as to produce a good English composition.

It was assumed that all children who could learn to write could learn to draw; *i. e.*, all children not physically nor mentally incapacitated for the one were qualified for the other.

Our experience proves this: Exactly one hundred per cent. of such children in the Boston schools have so learned, and are now so learning, in as many degrees of success as is observable in other subjects; but they learn.

Their exercises at examinations prove this.

It was assumed that what all children could learn, all teachers could teach, if opportunities of learning could be given to them, and they were not physically or mentally incapacitated.

This has also been proved to be true by our experience.

The principle acted upon in devising plans or directing this study has been this—that any subject or stage of a subject of which the average child could not learn enough of to be useful to it, or the average teacher could not teach well, ought to have no place in the common schools.

All the teachers in the common schools of Boston have had the opportunity to learn drawing, and every one who has made use of the opportunity has learned, with different degrees of success, as with the children; but they have learned; and those who have tried to teach it have taught it well.

It has been asked, Why have not all the teachers long since become qualified to teach drawing? The answer is simple. It is this: By the clearly defined action of the drawing committee, attendance at the Normal classes has always been voluntary on the part of the teachers; and even the keeping a record of individual or numerical attendane was forbidden. The only records of their Normal studies in drawing ever allowed has been the table of results of their examination for certificates of competency to draw, irrespective of where and how they obtained the instruction. But the competency of those who could not pass the examination has never been officially recognized, and no teacher has ever earned a certificate of competency by attendance at classes only, but by exercises worked at the examination.

The provision of competent instruction for the teachers, the respect for their personal liberty in regard to attendance upon classes, by the drawing committee, has been repaid by the teachers in a way that has justified this confidence. But the fact that no teacher has ever been required, though all have been encouraged, to attend, accounts for the small minority of teachers who have not yet become certificated. The fact is incidental to their freedom of choice in the matter of instruction.

But it may certainly be said that all but five who are not so certificated *have* attended the classes, and *do* teach their pupils well, and might obtain a tangible recognition of this from the drawing committee if they attended the annual examinations. Some are too sensitive to do so, and in my experience as a practical teacher I know of no more certain sign of the ability to pass an examination than the sensitiveness which causes diffidence in a pupil's own powers.

GENERAL STATISTICS.

From the groups of statistics appended to this report, I have made the following generalization of—

The record of drawing in the schools, of all grades.

Number of schools in Boston	173
Schools in which teachers have passed no examination in drawing	3
Class-rooms in which the teachers have neither attended normal lessons nor passed examination in drawing	5

Qualifications of teachers, second grade.

Number of regular teachers in the public schools	1,045
Number of teachers who have attended normal lessons	1,040
Number of teachers who have passed one or more subjects in drawing	907
Number who have attended normal lessons, but not passed examination	138
Number who have neither attended normal lessons nor passed examination	5

The distribution of these among the grades of schools and their attainments:

	In primary.	In grammar.	In high.	In normal.	In special.	Total.
Number of teachers who have passed either in *no* subject of drawing, or in	51	53	29		4	137
1	11	8				19
2	16	26	7			49
3	74	41	6		2	123
4	79	52	2			133
Diploma, or all 5	152	391	30	4	7	584
Number of teachers of each grade	383	571	74	4	13	1,045

These results are on the second or grammar school grade. Diplomas are awarded for passing an examination in five subjects, which are: (1) free-hand; (2) model; (3) memory and design; (4) geometrical; (5) perspective.

The grading of the subject of drawing for the public schools, both of the city of Boston and State of Massachusetts, is as follows:

Grade.	Schools.	Subjects included.	Diplomas given already in Boston.
1st	Primary and intermediate.	Freehand, design, dictation, memory	None.
2d	Grammar	Freehand, design, geometry, models, memory, perspective.	584
3d	High and evening	Includes grammar work, high, shading coloring, machine drawing, building construction.	None.
4th	Normal	Includes high and teaching tests	None.

The first half of this system of grading is now in operation in Boston. It is proposed to bring the third grade into working next year, in both high and evening schools, and the fourth grade into the normal schools, the year after next.

The Massachusetts State Normal Art School is also on the fourth grade, and issues four certificates for four groups or years of study, and a diploma for them all. But this is the grading for a special art school, not a common school.

I *a*. TEACHING DRAWING IN HIGH SCHOOLS.

"*Teaching drawing in the high schools by regular teachers.*"

This subject having been arranged on the plan of instruction designed by the director of drawing, with special reference to its being finally taught by the regular teachers, and not by special instructors, the only question to be decided is, When will it be safe to entrust the work to the general teachers, and withdraw the specialists?

That question has already been decided by the school committee, by the order which passed a year ago, viz: That after September 1, 1880, no special instructor of drawing would be employed in the high schools, and, commencing at that time, the regular teachers would be required to give the instruction.

This was impressed upon me by the drawing committee at the beginning of the present school year, and also that my principal work during the year would be to prepare the high school teachers to commence the work in September.

I therefore called a meeting of all high school teachers at the beginning of this school year, and in a lecture carefully prepared and written, illustrated by many examples of high school work, gave them a clear idea of what they would be required to do.

This was followed by a series of weekly lectures and lessons, continued every Wednesday afternoon from 3 to 5.30 p. m., and intended to still continue up to June 15, to give them the necessary instruction.

This course will be concluded by an examination for a high school certificate of third grade, testifying to the qualification of the holders to give the high school instruction; and, from the devotion of time and skill displayed already by the teachers, it appears to me the class of thirty will probably all pass the examination and receive the certificates.

It is to be remembered that since 1873 the regular high school teachers of all classes, except those of the graduating classes, have been required by the programme to give the instruction in drawing to their pupils. A great majority of them have done so, and have taught it well.

Having had the subject under my observation from that time to this, and tested the results of examination by exercises, semi-annually, drawn in a given time by the pupils, I have no hesitation in saying that all that is worth teaching about drawing, all that can be taught to average pupils in a reasonable time, or that is worth knowing or being able to do, when acquired, all this has been, and is now being, taught by the majority of the teachers of the second and third high school classes better than it has been taught by the special teachers when they have been called upon to do the same work; and the examination papers now in my possession prove this.

I do not wish either to assert or deny that this has arisen from any poor teaching on the part of the specialists, or superior teaching power on the part of the regular teachers; but it must be accounted for somehow, because it is true, and has become demonstrated in actual experience. My explanation of it is, that it illustrates a pernicious and radically wrong principle of education, viz, the employment of specialists to teach elementary subjects in common schools. We should recognize the principle that any subject which requires the assistance of specialists to teach it, and is thereby made into a specialty, should never be taught in common schools.

Special teachers should not be so employed, except as a temporary expedient, and then only for a very limited time; and any subject which the regular teachers cannot teach ought not to be studied by the children. Every educator of wide experience and practical administrative power knows this to be true about other elementary subjects of instruction; and from an uninterrupted observation of nine years of the Boston public schools I say that it is equally true about drawing.

Apart from the question of economy, which solvent people should also consider in order to remain solvent, the question of success in the work, efficiency of instruction alone, decides the matter in favor of employing only the regular teachers to do this work. The poorest educational results in drawing in any classes, in any grade of school, have been those produced in the classes taught alone by specialists, with one solitary exception, those in the English High School; and if any one doubts this statement I am able to prove it by evidence of the examination papers of all grades, now in my possession, produced by the pupils.

For this I do not in every case wish to blame the specialists; for the best of their kind could not produce as healthy results, or as sound and lasting results educationally, as the regular teachers have produced, can and will produce, in and for their pupils, in the past, present, and future.

It is the wrong principle in education which destroys the specialists' influence and limits their success.

The children are excited and disturbed by the visits of specialists. They see their own teachers interrupted by the lesson whilst the specialist is at work, and perhaps reading or marking other exercises whilst he is presiding at the desk.

Drawing is thus made to appear to them as a tedious extra, which cannot be of much importance after all, since so superior a person as the teacher cares nothing for it, and apparently knows nothing about it.

I have seen this illustrated in one of the high schools in this city, and next day saw in another high school a regular teacher giving the same kind of lesson to her pupils, who were deeply interested, and did superior work. But in the class not taught by the regular teacher a large proportion of the pupils were excused from drawing on various grounds, and occupied back seats. Left to their own devices, they were apparently engaged on urgent private affairs.

In that same school also, as I was told by an ex-pupil, the girls habitually kept books by them to read, concealed from observation, whilst the specialist was teaching. On informing him of the fact, he blamed the pupils for their lack of interest.

I venture to say that the same state of things would have been impossible if the regular teacher had done the work. Moreover, if a pupil finds it possible to attend to any other thing or person than the subject and its expounder, whilst the teacher is addressing and teaching the class, either that pupil or that teacher had better be somewhere else, and the pupil has more right to remain than the teacher.

A NOTABLE DRAWING LESSON.

The best drawing lesson I ever saw given was given by a primary school teacher in a western town in this State, who could not draw, as she said afterwards, and to pupils who could not draw, as she thought. My visit to the school was purely accidental, and the teacher did not know who I was or that I had any interest in drawing

She was engaged at the time of my visit at the blackboard, chalk in hand, the pupils being in Indian file round the room, also with chalk in hands, before the blackboard. With a large colored picture in her hand, first of a duck, then of a turkey, and then of an eagle, she was telling them about the shapes of the heads, wings, and feet of birds, and, in doing so, roughly illustrated the difference in them by sketches, which the children imitated with the usual variations on their shares of the board. Then, seeing I was interested, she went through a similar analysis of the shapes of leaves and flowers, and finally stood at her desk and by oral description alone made the class draw, first a square, then place a triangle above it, then add a rectangle above the last, and some other rectangles within and added to the sides of the square, and made the children complete the work by transforming the skeleton thus constructed into a very interesting cottage house. Then the superintendent, who accompanied me, introduced me to the lady, who seemed covered with confusion when she was told I was somewhat in the drawing business myself, and she commenced to make apologies for her want of skill, on the ground that she had never learned to draw. She seemed infinitely surprised when I told her that she had not only given me the best lesson in drawing I ever received, but the best lesson I ever saw given, and a better one than existed in any book.

She taught principles, not tricks, and her work was education, not a specialty.

How can it be doubted, then, that, with all the instruction our high school teachers have received, they also are able to teach equally well?

SPECIAL INSTRUCTORS.

Specialties in education must end somewhere, and in the common schools the right place for them to end is before they begin, or, like the man and camel in the fable, we shall have specialties in the tent and education outside.

In one of my visits to towns of this State I found that special teachers were employed to teach elocution or reading, drawing, writing, singing, and calisthenics. Whilst they were each consecutively employed in a class, the regular teacher was dethroned and belittled, and the pupils were distracted and frightened, and both were of as much and as little importance to one another as the Great Mogul was to either. Economically, the public was paying two persons to do badly what one of those persons could have done well.

To return from general principles to the particular subject.

I have observed that though this rule about high school teachers of the middle and lower classes being required to teach their pupils to draw exists, and has existed on the programme since 1873, the drawing committee has, on application, granted exceptions to it, in some cases.

Wherever this has been done the teachers have never learned to draw, and my belief is that they never will as long as the exception is made. Exceptions which are seven years old seem to me to be getting rather out of date.

There were prophecies of decadence for drawing when the special teachers of it were removed from the grammar schools; yet the subject has been steadily and uninteruptedly improving since that step was taken. There are similar prophecies now, which are as purely speculative and will be proved to be as untrue.

I submit these views to the committee because it is, first, my duty to do so; and secondly, because by the pioneer action of this city in teaching a common-sense kind of educational drawing to all pupils, the experience of the world has been considerably advanced in this subject, and some questions have been solved which were previously in doubt; and thirdly, because it has been my occupation to observe such developments and to make the city profit by them, whilst it has not been the business of any other person to do so, nor was it possible for them to do it. On this subject, therefore, I alone am an authority; and although I must expect to be severely criticised by the whole rank and file of specialists for my opinions, or rather for expressing them, I feel bound in considering and reporting on this branch of the subject to say that it is not only practicable, but educationally and economically profitable, to have the teaching of drawing in the high schools done by the regular teachers.

The time has come when by our developing plan it should be carried out, and we must either cry halt, and retreat on a delusion, or go forward with the courage of our convictions and succeed.

This may involve the transfer of one or two high school teachers from one school to another, or of two or three successful grammar school teachers to the high schools; neither of which would involve the sacrifice of any principle, for they could do other work in the schools, being regular teachers, nor would it cause any extra expense to the city.

There are several teachers in the grammar schools exceptionally qualified to teach the subjects in even a higher grade of schools than the high schools, who could be transferred to them as a fitting recognition of their superior qualifications in drawing. I could also name, if necessary, more than one grammar school master whose salary on the second grade is the same as that of junior masters in the high schools, who could, if placed in the latter, teach drawing better than it ever has been taught before in the schools; and I would therefore advocate such a change.

Whilst thus demonstrating the possibility of carrying out the school committee's decision about drawing in the high schools, I would impress upon all the desirability of normal instruction to the high school teachers being continued, because it is advisable not only to have the subject well taught in the schools, but better taught than it ever has been before. It is not to create that which has been foolishly called special skill which makes this advisable, but in order to make that skill general by destroying its specialty.

That which is possible in Boston may not be equally possible elsewhere; for it may be reasonably expected of a city which has for many years taken the lead in this industrial and educational matter that it may now expect to reap the fruits of experience for which it has paid, as interest upon investment wisely made.

I *b*. EVENING DRAWING SCHOOLS.

The free evening drawing schools have been, on the whole, well attended, and have gradually improved since their establishment.

They have suffered from difficulties, some of which were temporary and are now removable, such as want of preparation in the elements of drawing on the part of the pupils, few of whom have been young enough to have learned drawing when in day schools, and this has prevented the organization of a uniform course of study, by which now it is possible they will be greatly benefited.

The irregularity of attendance which has been noticeable in the general elementary classes has been also observable in the drawing classes, and the difficulty in the past years of securing teachers trained to teach drawing has led to the employment of some who were not teachers by occupation, and who, after being engaged in other work all day, are not equal to the additional labor of teaching large classes at night.

The conditions have changed since these classes were first established, and it is now practicable, by judicious organization, to greatly improve their efficiency.

The three things necessary to their success are:

(1) Regularity of attendance on the part of the pupils to be insisted on.

(2) A systematic course of study to be followed.

(3) Professional and experienced teachers to be employed.

These three elements of success can now for the first time be secured, and should be accepted and required.

(1) *Regularity of attendance.*—If the city incurs the cost of providing teachers, the pupils who ask for this opportunity should at least agree to attend, unless prevented by sickness or removal from the locality. This they have not done in the past, and thus both sides have been losers, the pupils and the city. They have been allowed to attend two or four nights, as they chose, and very few have done so regularly.

I propose that in the future the classes shall be open for three nights only, on the three alternate evenings of Monday, Wednesday, and Friday, from 7½ to 9½; that the rules which are made for attendance at other evening classes should be applied to the drawing classes, and the teachers be as much required to enforce them as they are in the day schools. It is absolutely useless for people to come at all to these classes unless they do attend regularly; it is time thrown away on their part, and money thrown away on the city's part. It is therefore only kindness to them, and just to the city, that they should either come regularly or not at all, and if the good they get and their appreciation of it be not of sufficient importance to make them engage so to attend, and faithfully keep their promises, it is not of sufficient value to anybody to justify the authorities in spending public money on it.

I wish to emphasize, as the result of my long experience in observing and conducting these classes here and elsewhere, that regularity of attendance is of more vital consequence and a more imperative condition of progress in night schools for youths than in day schools for children; so, if it should appear in the future that it is impossible to secure this feature, the schools had better be closed. But I also know that it is possible to obtain such attendance, and will undertake to say that if the committee adopt my suggestions, and give the authority to the director and the teachers to adhere scrupulously to the regulations, there will be a great change in the attendance, and an improvement also in the results.

It has been found that two evenings per week are not enough for progress, and four are too many to expect the pupils to attend without irregularity, and therefore I propose three evenings as a judicious compromise.

(2) *Systematic course of study.*—Supposing the pupils to come regularly, then a well-defined course of study for the two divisions of free-hand and instrumental subjects should be followed, and the time allowed be for two years, viz, one common year for both, and a second either for freehand or instrumental drawing now.

At a future time a third year's course may be added, but it is not necessary now.

Each pupil should be admitted by examination only, if he desires to take up the second year's course, and placed where he should begin by the examiner. The course of study in that year to which he is admitted should alone be followed, and his progress tested by an examination at the end of it, for promotion, or for the award of a proper certificate on the completion of the course. Desultory studies should not be allowed, for they never succeed, and private and individual instruction in public schools not be permitted. Such ambitious studies as architecture or artistic subjects should be left for other organizations, not supported by public money, like the schools of the Museum of Fine Arts and the Institute of Technology, which are infinitely better able to supply professional instruction to the few who need it; whilst practical subjects, such as building construction, and industrial design, might serviceably be pursued in the free city classes.

In the course of study drawn up for the night classes, and submitted herewith, I have suggested arrangements which I have never known to fail in producing successful results, both of attendance and attainments.

The work proposed is a minimum, and affords ample opportunity for scope, by its elasticity, to good teachers, and to develop individuality in both pupils and teachers, whilst it secures solid work by both for the city.

Properly placed by an entrance examination, which is not to exclude but to admit pupils in the right place, systematically taught by graded exercises and subjects during the term, and dismissed at the end by a final test and a recognition of work done, the pupils will be greatly benefited, the teachers will make their work tell, and the public be certain to reap the advantage of the improvement.

(3) *Professional teachers employed.*—It is as necessary to have teachers by occupation only in the night schools as in the day schools, and by ordinance the committee forbid the regular employment of day teachers in any other occupation during school terms.

We want more concentration of energy and action in night schools than in day schools, for the teachers in these night schools have to meet and instruct those who are themselves wearied at the end of a day's work.

If the teachers come fresh and able, they can be expected to do the work; but if they also come wearied by a day's work already done, they cannot awaken interest and do good work.

Besides this, successful teaching involves much labor and preparation for the lessons, outside the class-room, and this is something which those who are absorbed in another principal occupation have not time for.

When this has been considered before, it was not thought advisable to take the step now proposed, because a sufficient number of professional teachers of drawing were not available. Now they are, and in the classes where such teachers are at present employed the results have been the best. The special teachers whose services are discontinued in the high schools will also be available. The change which I suggest, therefore, is that only teachers by occupation shall in future be employed in the night classes. This will not inflict hardship on anybody, for any present teacher, removed by this proposal, has other more lucrative employment. In the improved organization of the classes, also, there will be more training and more time required from the teachers, and I therefore make this proposal as the best way of securing the most profitable teaching power, and the most efficient results for the pupils and the public.

The classes should be kept open during the months of October, November, December, January, February, March, and April; each year's work to be complete, and the *second* to follow the first year.

Two instructors should be appointed to each class, one as head assistant, responsible for its entire conduct, another as assistant curator, to teach under him.

The number of pupils to one instructor has been gradually decreased from thirty, in all classes, to fifteen in some and twenty in others.

This has been under the practice of individual instruction, or the giving of private lessons in public schools, *the entire abolition of which I most earnestly advocate.*

In substitution for this I would propose that until there is more than an average attendance of thirty pupils for each teacher — head assistant and assistant — no other teacher be allowed; for upon the new organization under class instruction by lectures no other will be needed, thirty pupils to one teacher by class lectures being no harder to teach than ten. * * *

The system of class instruction by lectures, which it is proposed to introduce into the evening schools, has, in a modified form, been tried in one evening school during the present year, and was successful, both in partially curing irregular attendance and infusing new life and interest into the pupils and their work.

It has involved the employment of the instructors during the daytime, for the purpose of making diagrams and illustrations of study for the pupils.

This has been at the voluntary option of the instructors of this one class, and at their own cost. It has been time well spent by the teachers, and has increased the value of their teaching power; and I should wish to impress upon all future instructors that such work done by them for their classes should be considered as a legitimate part of the work for which they are paid, and is, indeed, the only possible way in which they can conduct their classes well. Work done before their classes has one sort of value; work done more deliberately and accurately for their classes has another kind of value; and neither is complete without the other. And as no large diagrams of principles of light and shade and form, and well-illustrated details of processes of representation, at present either exist or have been published on a large scale, it follows that each teacher, when first employed, should be made to realize that such a part of the work for their classes by them is involved in their engagement.

This arrangement will develop the individual ability of teacher and pupil to a valable extent, and give free scope for the taste of all.

It will do another good thing. It will inevitably discover all poor teachers, and lead to a merciful change in their occupations, so desirable for all parties; or, what is still better, it will turn poor teachers into good ones, and good ones into excellent ones; for in this class instruction, with examples made by the teachers, a teacher will be like a man ascending a ladder with a load on his back, which, if he loses control of himself and falls, will fall with him. In other words, the teacher and his class will ascend or fall together, if at all.

This is a compromise between teaching with text-books alone and abolishing all examples, neither of which is wise. Text-books may be helps or hindrances, just as the teacher chooses to make them; but they will be more likely to be helpful than harmful if the teacher has made them for his own use; for a text-book or illustration used in teaching drawing is an implement or weapon, which, whilst it protects the bread of life in instruction, does not produce it.

It is perhaps lamentable, because it is so serious a hindrance to young teachers, that the literature of art education does not exist. The subject is but a modern one in its general application to educational purposes, and the combination of the artistic perception of principles, by which alone art work can be studied, and the knowledge of the processes of education through which it can be taught, have very seldom been associated in the same person. When that has been the case, the possessor has usually been too busy to produce the works which would help the young teacher, and so his skill and experience have perished with him, unless the germ of higher development has been left by him in a pupil, who may have time to enshrine it in good literature.

There is at present no trustworthy book in our language which covers the ground of orthographic or true drawing of regular and irregular forms by parallel projection, continued into radial or perspective projection of forms, and beyond that into the stages of light, shade, and shadow, thus harmonizing the fact and its appearance, forming a grammar of physical phenomena in aerial perspective, the relative size, form, distinctness, or intensity of objects, as affected by position, distance, color, and light, under conditions which are either nomal or accidental. Nor is there any text-book or arrangement of forms and effects in nature as perceived by the eye, and capable of being represented by the hand, and psychologically treated, by study of which the laws of form, nature, and growth can be learned and displayed as distinguished from the abnormal conditions of the same, by lessons at once comprehensive, sequential, and simple.

The apparent and the actual are often at first sight contradictory, and not seldom at last sight also, being exactly measured in degree by the amount of our ignorance, and harmonized in proportion with our knowledge.

About the physical world, this true perception by the mind of that which goes into it through the eye is only possible to those whose observation has been developed, and whose minds have been trained by graphic processes based on exact science.

Drawing so treated would become the common element of a higher education, both to the artisan and the artist; but it never has been so treated by competent authorities, and the highest achievements hitherto have been the localizing of a little light upon a small detail of the general landscape of art, so that it became relatively visible in contrast with the surrounding obscurity.

So that, as this great work has never yet been done, we, who have only time to learn details and teach them, must create for ourselves the instruments of our warfare as we go along the road, in faith and hope of better things for the coming generations.

We are nearer the solution of this problem here and now than we have ever been before, here or elsewhere, and our evening school teachers, properly selected and well directed, may in future rapidly occupy at least the outworks of this educational fortress.

I have suggested that the teachers should be employed by the year, and not between the hours of 7 and 9 p. m. for a short time in the year; for that only implies care and work for their classes a few hours in the year. Now, if an evening school teacher does not spend as much time out of school as in school for his class, he cannot possibly succeed in his work, and if he would become an excellent teacher he must spend more time. For this he should be paid, so as to enable him to give it, and enable his employers to require it of him.

The sums named as salaries by me are about the same as are now paid, and they are liberal, and will command the services of the best teachers in the city. Their employment at other times of the day by other employers, but always in teaching, and in no other employment, would not interfere with, but rather add to, their powers of usefulness or success.

I have considered this matter carefully and laboriously for many years, in this and other countries, and believe that only on such or similar conditions as those I have described can the element of drawing in education be economically and worthily developed for practical or æsthetic purposes.

Herewith is submitted the arrangement of a course of instruction for the evening drawing schools, to cover a period of two years, both for the free-hand and also the instrumental divisions.

The first year's course includes the elementary sections of both divisions, and, as it is intended to prepare the student for either, is the common foundation of both.

Much of the want of success in attainment by individual students and lack of continued interest in the subject arises from their want of a knowledge of the first principles of graphic art, without which steady advancement is impossible, for growing interest cannot be sustained.

PLAN OF INSTRUCTION IN INDUSTRIAL DRAWING FOR THE FREE EVENING DRAWING CLASSES OF THE CITY OF BOSTON, MASS.

(*Arranged for a course of two years' class instruction by lectures.*)

First year: Elementary and general for all students.

Second year: Applied elective, in four branches: (1) Free-hand design; (2) machine drawing; (3) building-construction; (4) ship-draughting.

For the year 1880-'81.

Contents: Information for students and regulations; diary of class lectures; list of certificate work; programme of examinations; awards of certificates and diplomas. Arranged by Walter Smith, director of drawing; adopted by the school committee.

INFORMATION FOR STUDENTS, AND REGULATIONS CONCERNING THE CLASSES, BOTH OF FIRST AND SECOND YEAR.

Opening and closing of classes.—Public notice by advertisement is given in the newspapers of the opening of the classes, which will be on the first Monday in October of each year, and they close with an examination during the last week, and distribution of certificates and diplomas, on the last Wednesday in April of each year.

Admission, course of study, examination.—Applicants for admission must be over fifteen years of age. For the first year's course students will be admitted without examination. Those desiring to enter the second year's course will be examined in drawing from the object, for the free-hand course, and in plane geometry for the instrumental course. New students who have not attended the classes before 1880 will be admitted only to the first year's course. Students are required to follow the course of study for the year and division to which they belong, and no other drawings but those named in the list, and the lecture exercises, are permitted to be drawn in the classes.

The first week in each annual session will be devoted to admitting and examining the applicants for admission; the week preceding the distribution of certificates and diplomas will be devoted to the final examinations. No student will be admitted after the last meeting of the classes in October and in January.

Time and regularity in attendance.— The classes will be open on Monday, Wednesday, and Friday evenings in each week, during the period specified above, from 7½ to 9½, each evening, and students must be in their places at that time, the rooms being open and teachers present at 7¼. They will be required to sign a written agreement to attend the whole session, punctually and regularly, unless prevented by sickness, or removal from the district in which the class is held, of which notice must be given to the principal or head assistant of each school. This written agreement must be filled up and presented for admission to the classes by each student, during the first week of the annual session.

Instruments.—Students requiring the loan of instruments in the second year's course must apply to the curator for them each evening between 7¼ and 7½, so as to be in their places at 7½.

Division of the year into terms— holidays and vacations.—The year is divided into first and second terms; the first being the months of October, November, December; the second being from the beginning of January until the end of the annual session, comprising the months of January, February, March, and April. Holidays and vacations are the same as in the day schools.

Size and number of drawings in each year's course.— In the first year's course twelve drawings are required, to be made, or mounted, when done, on half-imperial sheets, fifteen by twenty-one inches.

In the second year's course eight drawings are required, made, or mounted, when done, on full imperial sheets, except in ship-draughting. One drawing from every set of works in each year will be selected and retained by the school committee, as city property, for purposes of record. No drawing is to be taken away from the school when finished, until the end of the session. Every drawing, when finished, will be initialled by the teacher of the class.

When accepted by the director of drawing, it will be stamped by him, and form one of the certificate set. Records of drawings accepted, examinations passed, and certificates awarded, will be kept by the head instructor of each class, and the general record of all the classes be preserved by the officers of the school committee, at its office.

Conduct of students.—Every student will be furnished with a copy of this plan of instruction on admission, and is expected to read it, and to abide by all the rules and regulations herein stated, as a condition of attendance on the classes. Attendance will, therefore, be regarded as evidence of agreement to comply with the regulations, and follow the courses of instruction.

Materials and implements of study.—Students will provide their own materials and implements for study, and none will, as heretofore, be kept on sale at the schools. Instruments and drawing-boards, will, however, be loaned to those who do not possess their own, but these will all be kept in the school, and, therefore, never to be taken away by the students.

A locker will be provided for each student, in which to keep boards and materials. At the beginning of the annual session each student will deposit twenty-five cents with the curator of the class, and be provided with a key to his locker. At the end of the session he must deliver up the key, and will receive back the deposit of twenty-five cents. Lost keys will be replaced at the cost of the students.

PROGRAMME.—DIARY OF CLASS INSTRUCTION, BY LECTURES.

First year's course.—general.

Days.	Hours.	Subjects.	
		First term.	Second term.
Monday	7½ to 8½.	Geometrical drawing	Perspective.
	8½ to 9½.	Building construction	Machine drawing.
Wednesday	7½ to 8½.	Model drawing, outline copy	Model drawing object. Shaded.
	8½ to 9½.	Model drawing, object	Model drawing, object. Shaded.
Friday	7½ to 8½.	Historic ornament	Elementary design.
	8½ to 9½.	Botanical analysis	Applied design.

Second year's course.—elective—free-hand division.

Days.	Hours.	Subjects.	
		First term.	Second term.
Monday	7½ to 8½. 8½ to 9½.	Lectures	Applied design.
Wednesday	7½ to 8½. 8½ to 9½.	Cast drawing	Applied design.
Friday	7½ to 8½. 8½ to 9½.	Design	Applied design.

Instrumental division.

Days.	Hours.	Subjects.			
		First term. General.	Second term. Elective.		
Monday	7½ to 8½.	Geometrical plane	Machine	Building con.	Ship-draughting.
	8½ to 9½.	Geometrical solid	Screws	Masonry	Designs.
Wednesday	7½ to 8½. 8½ to 9½.	Isometric proj. Shadows	Wheels	Carpentry	Designs.
Friday	7½ to 8½. 8½ to 9½.	Intersection solids Development surfaces	Machinery	House	Designs.

COURSES OF STUDY: FIRST YEAR'S COURSE — INDUSTRIAL DRAWING — THIRD GRADE.

List of drawings to be executed in the year — general course for all the students.

Instrumental drawing.—(1) A sheet of geometrical problems, plane and solid; (2) a sheet of perspective problems, parallel, angular, oblique; (3) a sheet of machine drawing from lectures; (4) a sheet of building construction from lectures.

Free-hand drawing.—(5) A sheet of model drawing in outline from object; (6) a sheet of two model drawings from copy, and the object, shaded with pencil or crayon; (7) a sheet of two model drawings from copy, and the object, shaded with stump; (8) a sheet of two model drawings from copy, and the object, shaded with brush; (9) a sheet of two outline drawings from natural foliage and common objects; (10) a sheet of designs, one elementary, one applied; (11) a sheet of botanical analysis of a plant; (12) a sheet of analysis of three styles of historic ornament.

Examinations for certificate.—The above drawings having been submitted and approved, time examination for the completion of the certificate will be held at the end of the annual session, as follows: (1) Geometrical drawing; (2) perspective; (3) machine drawing; (4) building construction; (5) model drawing, point and stump; (6) historical ornament, memory of design. One hour given for each subject.

SECOND YEAR'S COURSE — INDUSTRIAL DRAWING — THIRD GRADE.

Students must have obtained the certificate for the first year's course, or passed the examinations.

List of drawings to be executed during the year.

Free-hand drawing.—(1) Sheet of group of geometric models and vase, shaded in any medium, point, stump, or brush from solid; (2) sheet of historic ornament, shaded from cast, in any medium; (3) sheet of detail, mask, bust, or extremities of human figure, in outline or shaded from copy; (4) sheet of detail, mask, or extremities of human figure, shaded from cast.

Industrial design.—(5) Applied design for flat surface; (6) applied design for sculptured ornament; (7) applied design for an object and its ornament; (8) applied design for any subject chosen by student.

Examination for certificate or diploma.—The above drawings and designs having been submitted and approved, time examinations for the completion of the certificate, or diploma, will be held at the end of the annual session, as follows: (1) Drawing in light and shade from a group of models; (2) drawing in light and shade historic ornament from cast; (3) drawing from memory of original design. Two hours allowed for each exercise.

NOTE.—Students who have obtained the first year's certificate will, on completion of this year's course and passing examination, receive a diploma.

SECOND YEAR'S COURSE — INDUSTRIAL DRAWING — THIRD GRADE.

Students must have obtained the certificate for the first year's course, or passed the examination.

List of drawings to be executed during the year.

Instrumental drawing — first term — general: (1) Sheet of plane geometrical problems, advanced subjects and curves; (2) sheet of orthographic projection, lines, planes, and solids—solids to have plane and curved surfaces; (3) sheet of intersection of solids, development of surfaces, orthographic; (4) sheet of projection of shadows, orthographic; (5) sheet of isometric projection of solids and shadows.

Second term — elective — machine drawing: (6) Sheet of screws; (7) sheet of wheels; (8) machine, from blackboard, sections and details.

Building construction.—(6) Sheet of masonry, brick-work; (7) carpentry; (8) plans, elevation of house, details.

Ship-draughting.—(6) Plan of boat or ship; (7) section of boat or ship; (8) elevation of boat or ship.

Examination for certificate or diploma.—The above drawings and designs having been submitted and approved, time examination for the completion of the certificate or diploma will be held at the end of the annual session, as follows: (1) Geometrical problems, plane and solid; (2) isometric problems and shadows; (3) machine drawing, or building construction, or ship-draughting. Two hours allowed for each exercise.

NOTE.—Students who have obtained the first year's certificate will, on completion of this year's work, and passing the examination receive the diploma.

10. POINTS REQUIRING CONSIDERATION.

"Any other points requiring consideration."

Historical points.—In the year 1870 the drawing committee of the school board of the city of Boston issued a report, in print, in which occurs this passage: "Of all the studies in our public schools, drawing exhibits the most feeble results. We have had no system. Our teachers have not been instructed; and the work must now be commenced. Shall we have a plan or shall all be done at random?"

It is impossible to condense this statement and inquiry, and a very short explanation of it will be sufficient.

The first sentence is the record of a fact: Drawing *had* been taught in the public schools, with the most feeble results obtained from the teaching of any subject. The second and third sentences are explanatory of this condition, as well as records. There had been no system of teaching, and the teachers had not been instructed. The remainder of the passage suggests the remedies, viz: "The work (of instructing the teachers) must now be commenced;" and it ends by asking for the one other thing needful, in the words, "Shall we have a plan?" or as an alternative to a plan, "Shall all be done at random?"

After full consideration of this statement and proposal of its drawing committee, the school board recognized the truth of the record, and adopted the proposals to have a plan of instruction, and to have the teachers instructed.

How this was carried out is now a matter of history, and has been in general terms referred to before; how much of it has already been accomplished, and what is still being done, or contemplated in the future to complete the work, is also described in the appropriate place in this report.

As throwing some light upon the subject from an altogether independent source, the following becomes a matter of public interest.

In the year 1876—that is, six years after the publication of this drawing committee's report to the school board—another report was written; this time not by the drawing Committee of Boston, but by the French commissioners on education, sent by their Government to the Centennial Exhibition at Philadelphia. They were distinguished savans, chosen from a multitude of educational experts in the most artistic nation in the world. Their report is therefore trustworthy, for the authority is unquestionable. They subjected to close scrutiny and exhaustive analysis the exhibits in drawing made by all the cities and States of this nation, including that of Boston and Massachusetts, and from Boston alone was furnished nine-tenths of the whole exhibit from Massachusetts.

Upon this display, after noticing the exhibits of other States, they say:

"The public schools of Massachusetts presented a collective exhibit extremely remarkable, the most complete of all and the most methodically arranged."

Further on they notice a difference of materials used and mode of study from their own, which is to be accounted for in the difference between the arrangements and administration of French and American schools; but upon a consideration of the whole subject they say:

"Such as these works are, they bear witness to the excellence of the method, to the good disposition of the scholars, as well as to the conscientious and intelligent care given to the instruction, with the view of developing the practice of practical elementary drawing. If we bear in mind that these fruits are the results of a few years of trial, we must admit that never before have such remarkable results in so short a time been attained."

This was their impartial record of the condition in which they found drawing in our public schools, after an examination of the actual work done in them, and the plan which had produced it.

But their work was not only to record what was to be seen, but also to make suggestions to their own Government of the lessons to be deduced therefrom.

With the instincts of their race made sensitive by generations of culture, and with the habit of detecting the secret of success and turning it to practical account, which professional experience in education had given them, they conclude their report in language, the significance of which it is impossible to overestimate, whilst its direct bearing upon, and connection with, my subject is clearly established.

After considering our progress, they say:

"It is necessary that France defend her preëminence in art, *hitherto uncontested.* With us, as elsewhere, it does not suffice to have excellent special teachers of drawing; *it is necessary that all the teachers should be able to give the first instruction in drawing in the day classes to the entire school population.*"

I place these two reports side by side, because they are as closely related to each other as question and answer. The question put in Boston, in 1870, has been answered in Paris in 1876.

The Boston record of 1870 says, "Drawing exhibits the most feeble results." The Paris verdict of 1876 says, "Never before have such remarkable results, in so short a time, been attained." The Boston appeal in 1870 was, "We have had no system; shall we have a plan?" The Paris reply of 1876 is, "These works bear witness to the excellence of the method."

Since 1876 four years have elapsed, and nearly two years ago I carefully examined the national displays of drawing at the International Exhibition in Paris, in 1878.

In 1863 I made a similar examination of the French exhibit of drawings at the Palais de l'Industrie in Paris, by order of the English Government, and again in 1867. I was therefore able to see the changes that have occurred since the first examination, as displayed at the last, and can say that the greatest changes observable in 1878 were in details of instruction and choice of subjects, which might have been borrowed from Massachusetts, for they have been developed here, and up to that time did not systematically exist elsewhere, and could not therefore have been borrowed from another source.

Whilst the great radical change observable in the elementary instruction in public schools was the basing all drawing on a geometrical foundation, by use of instruments, to learn the properties of regular form, and the practice also of exercises in design. Both of these branches are new in the French public schools, but have been part of the Massachusetts plan from 1871.

To understand the present condition of drawing in the public schools it is necessary to describe briefly its condition before the subject was placed under its present organization, which took place in 1871.

In 1870 the work described by the drawing committee of that year as having no plan, and being done at random, was carried on principally by seven instructors, engaged in the Latin and the English, Girls', Dorchester, and Roxbury High Schools, some of whom also gave lessons on arranged circuits in the grammar schools. Since then Charlestown and West Roxbury have been annexed to Boston, both having special instructors; so that had the same system been continued there would now have been nine special instructors, and, if Brighton had been so supplied, ten.

But this number has been gradually reduced, so that at present there are only three special instructors employed in the public schools.

The regular teachers of the high schools did not teach the subject at all, and those of the grammar schools, with few exceptions, hardly at all. The reason of this, as the report of 1870 expressed it, was that there was no plan issued, and the teachers had not been instructed. The few who had been taught were the exceptions, and they taught the subject to their pupils then, and taught it well, but not so well as they do now.

The character of the drawing was such as might be expected from its having no plan, and it was from an examination of the results as produced that the legislature of Massachusetts was asked to pass the industrial drawing act of 1870, which defined the aim and character of the instruction, and required it to be given in all the public schools of the State.

The character of the drawing in the public schools in 1871, when the direction of it, under the drawing committee, was placed in my hands, was this:

Grammar schools.—In the grammar schools there was (1) no drawing from nature or solid objects, (2) no geometrical or perspective drawing, (3) no original designing. The exercises consisted of copying flat examples from books.

High schools.—In the high schools, drawing from the object was practised in the highest class only, not from casts or well-selected objects, but often from toys, and other ill-shaped forms.

Thus, in one class-room, at the first visit I made to it some pupils were found drawing from the detached arm and hand of a wax doll, and others from a statuette in porcelain of a woolly French poodle dog, value five cents; neither pupils nor teachers seemed at all conscious of any unfitness in the subjects.

One small class, in the English High School only, studied instrumental or scientific drawing, as a preparation for the entrance examination to the Institute of Technology. All the rest was either flat copying in outline or from small shaded examples.

There was no original designing or drawing from nature in any of the classes, in any grade of schools, and no instrumental drawing except in the one small class named.

Thus, neither science nor art was an element in it; it was not industrial nor artistic; and, with such features neglected or absent, accuracy and beauty were impossible.

The only description which could be given of the subject thus taught was that, having no tendency in any direction, either for good or evil, it appeared to afford to those who followed it a sort of melancholy recreation.

The legislative act of 1870, by which the subject of *industrial* drawing was required to be taught, put an end to this aimless recreation, and began a practical study in our schools; for the school committee of this city was the first in the commonwealth to carry out the law.

The extent to which the development of this scheme has put the teaching of drawing into the hands of the regular teachers may be thus described.

The actual teaching by the special instructors, in all schools below the high schools, was first withdrawn, and then the supervision of the work by them was withdrawn; so that at present there is neither teaching nor supervision of drawing by special instructors in any schools but high schools.

The teaching of drawing in the high schools by special instructors has been confined by the programme to the highest or graduating classes only since 1873, the classes below being taught by the regular teachers. There have been exceptions, in some cases, permitted by the drawing committee on the application of principals of high schools, but that has been an exception to the rule.

The removal of special instructors from the high schools is therefore a continuation of the plan which has previously removed them from the lower schools, and this part of the programme will then be complete for the day schools, whilst the employment of none but special instructors in the evening schools will be the means of its final accomplishment.

From 1872 up to 1876 annual exhibitions of the works of pupils in the schools were held at Horticultural Hall, and in 1879 a triennial exhibition was held.

These exhibitions are for teachers, pupils, and the public; the most popular, efficient, economical, and comprehensive of all the agents of education in drawing employed by the city. Through their organization and arrangement every person, including teachers, can see and examine by an hour's expenditure of time how drawing is being taught in every subject, grade, school, and class-room, and by every teacher, in the city.

The city of Boston has some cause for satisfaction with the progress already made in the subject of drawing in its schools, and may reasonably expect improved results, year by year, as its experience matures.

The conditions of final and complete success, however, in this as in all other subjects of instruction, require patient and uninterrupted continuance of effort in one direction, upon any well-defined plan, before the highest and best attainments become realized.

It was the recognition of this necessary element of successful progress which made the French critics of the art educational works shown by this city and State at Philadelphia, in 1876, say, in their report to the French Government, "As soon as the Normal Art School in Boston shall have had time to bear fruit, we can predict for the industrial art of Massachusetts new increase and a brilliant future."

This expressed in a nutshell the vital condition of a success which they predicted, if the subject were pursued in compliance with inevitable terms.

The tree that is to be known by its fruits, or that is ever to have any fruit at all, must be allowed to arrive to maturity; or, as they expressed it, "have time to bear fruit." Language is incapable of a more distinct and forcible expression of opinion; whilst the testimony to the influence and success of normal training for teachers, such as we have carried out, is as definite as it is significant, and valuable as voluntary evidence from the highest authorities. It was as unasked for as it was unexpected, though not unappreciated by me; nor ought it to be ignored by the friends of education in America, who are sometimes puzzled to know what to think of this Massachusetts system of art education, whilst they are willing in the abstract to bow down to French leadership in art matters. So am I, with the freedom of our common ancestors.

This criticism seems to me to be destined to throw light on darkness, which cannot only be seen, but felt also.

II. DUTIES OF DIRECTOR.

(2) "The duties devolving upon the director with regard to all day and evening schools."

GENERAL DUTIES.

To define these requires a full explanation of the work to be done, and the circumstances under which it has been and is to be done.

The work has been continually changing from the first, with the development of the subject of drawing, and the duties of the director have been therefore as much subject to change as the work. They have altered as the subject progressed, and have never been the same in successive years nor at different times of the same year. The normal instruction alone has been continuous during the whole period, and the supervision of the whole subject in the grades most needing it; but such work as the holding of examinations or exhibitions, involving the devotion of great amount of time and skill, has been necessarily at intervals, and when the occasions required it.

Thus, though every week during term time has demanded some work each day, either in teaching or supervision of day or night classes, employing a few hours per diem on certain occasions, continuous application for more than twelve hours a day for weeks together has been necessary, as in examinations, when I have had more than 40,000 drawing exercises to be examined, ranked, and recorded at one time in my studio, and the help received has not been material, nor could I wholly rely upon it, being alone responsible for professional judgments given.

Thus the work has had claims upon me, from the nature of the trust imposed, for all the time required to do it, whether much or little; and I am willing to be judged by the results of my own judgment in deciding when and where it has been performed, and whether it has been faithfully done or not.

My work may be said to have been *de*visory, *ad*visory, and *super*visory, and how much of each at different times has been decided by the exigencies of the case, in determining which I am alone to be held responsible.

A personal explanation concerning the nature of my original engagement should here be made.

When, in 1871, I was appointed as an officer of the school committee, to take professional charge of the whole subject of drawing, the work to be done was definitely described in these words, viz, to create a plan of study for the public schools such as could be carried out by the regular teachers, which involved the normal instruction of those teachers, to organize it, and to supervise the study when made general.

But, as the office was a new one, and the duties without precedent, I was informed that how, when, or where this work had to be done must rest entirely with me, and that this freedom of action entailed complete responsibility to the school committee and the public for the success or failure of the work. This alone was plain.

It was because the committee thought no one here could decide with authority when, where, and how the work could be done, that it became necessary to place it in the hands of some one who both knew these points and had done the same work before.

I was informed that, whilst no one should interfere with my work, I should be held strictly accountable for its success or failure, for that was the only true test the committee could apply to it.

This charge I undertook on those conditions, involving confidence and trust on the part of the committee, and responsibility on mine. The contract was never written, the duties never defined, and the engagement never limited in time. The committee knew what they wanted to have done; I knew how to do it; they asked me to do it, and I accepted.

Perhaps no important educational work was ever intrusted to a stranger with more generous trust, and no contract, written or unwritten, was ever more scrupulously adhered to in good faith by any committee than this has been.

On the other hand, perhaps no stranger ever displayed as much confidence in strangers as I did by undertaking this work, nor relinquished more on faith of verbal promises.

I acknowledge, therefore, with feelings of gratitude, that perfect faith has been kept with me by the school committee, and that now, as ever, I am willing and anxious to recognize this; to give an account of my stewardship, and abide by the record, for I feel that I have been faithful to my trust.

Though this work was not new to me when I undertook it, it has, in the variety of duties and comprehensiveness of its character, absorbed more of my time than I ever expected.

The wide field and growing importance of the subject here, which attracted me to the work, has been broadening and increasing every day, until the area of its influence and measure of its success and usefulness have repaid the labor and life devoted to it.

Public opinion from the first has been antagonistic to the subject, and has had to be educated to understand it; a process by no means yet complete. General incredulity as to the possibility of teaching all children to draw was frequent, and noisily expressed; but that has been demonstrated to be a pessimistic view, without foundation. Doubts concerning the practical usefulness of drawing to all people were once common; but no educator or publicist abreast of his time, or familiar with the sources of national progress and wealth, now shares those doubts, and their occasional utterance to-day is monopolized by those who believe only in the good old times, or languish for the return of what it pleases some to call the dark ages.

I am far from claiming that opposition of this kind has disappeared; but the results of education in art elements in this city have tended to weigh these views in the balances, and they have been found wanting, and have been so pronounced.

We have made some progress and made it possible for the next generation to make great progress.

This city has changed not only its belief in the practicability of teaching drawing, but its opinion also as to the value of drawing when acquired by all people. One of my duties has been to justify this change, and hasten it, for by that alone was it possible for me ever to reach the development of plans and methods of work which made heavy drafts on the faith of many.

Then I have had to create my implements of work as we went on. To illustrate in detail.

There were no geometric solids for teaching drawing from the object manufactured in this country. So I had to make designs and arrange, in the ordinary way of business, that they should be worked out here. The Worcester Technical School undertook to manufacture them, and they were therefore available to us, made at home, and better than we could import and cheaper.

Then, when I wanted to have perspective and drawing which was scientific and instrumental taught in the schools, the great cost of implements, boards, scales, squares, and other things made the outfit too expensive for the schools. So I went to work and invented a paper instrument, which combined in one all the costly apparatus, and cost ten or fifteen cents to buy, as a substitute for tools which cost several dollars to provide them as an outfit for each pupil.

Again, there were no text-books which enabled pupils to study the principles of, and the exercises in, industrial drawing. Then I had to undertake to produce them, and through the channels of trade made them available to our schools without risk or outlay on the part of the city, more than for ordinary stationery. I have done that work also, and am now completing it for the higher grades of high schools, evening classes, and normal school.

A constant source of misunderstanding of my duties on the part of the public is want of knowledge of the circumstances which preceded my employment by this city and State, and I take this, the first official opportunity I have had, to describe these circumstances. It is essential to me that this statement should be made, and what is so essential to the director of drawing is of importance to the subject he directs.

The school committee of Boston, in the year 1870, and immediately after the passing of the industrial act of that year, applied of its own free will and accord to the English Government art educational authorities to name some trained art master of experience in organization and practical administrative power, to come here and be employed in the public schools, for reasons fully described elsewhere in this report.

As a first choice, those authorities, under whose eyes as student and master I had been working for twenty-two years, named me for the work, and so informed the Boston school committee. At that time I was head master of three schools of art in three adjacent towns in England, two of which towns were together twice as large and as populous as Boston then was, and are so as Boston now is.

The first intimation received by me of this nomination was by letter from the authorities in London, on October 22, 1870.

Then commenced a correspondence with the drawing committee of this city, from which I could not obtain all the information I wanted, and so, to avoid the risk of giving up a good permanent position, of which I was certain, for one I knew very little about, I made a visit to this country and spent three weeks in Boston, in May and June, 1871. This was in order that I should see if the work was that which I could do, and also that the committee might determine whether I was a suitable person in their opinion to do it. This was settled on both sides in the affirmative.

The salary offered me was $2,800 (increased during my visit to $3,300, and since decreased to $3,000), and my object in considering the proposal in my visit was to ascertain if the work expected was general, permitting me to do other work as well, or would absorb all my time and prevent this; because, if the latter, as the salary was only half the income I was then earning, I should at once decline it.

The answer was that it was general, and that I might do other work. But no other work at that time offered, and so at a drawing committee meeting held in the City Hall, on May 25, 1871, I declined the city offer made to me, and was prepared to return home. I was, however, requested to await a State Board of Education meeting, to be held in a few days, to consider the appointment of an agent to assist the public schools in Massachusetts to comply with the drawing act of 1870. I did so wait; the Board deliberated, and resolved to offer me the position at a salary of $2,000 a year, afterwards increased to $2,500, and since decreased to $2,250. This united salary was nominally (though not actually, considering the value of what money would buy, as I found afterwards to my cost) about that which I was then receiving in England, and so I was inclined to accept it. One thing only required to be solved. I was informed that in the city schools the officers were elected annually, and so were those of the Board of Education. Now, I wished to be thoroughly informed of the nature of my proposed engagement before I accepted the offers made. Had I to risk my position annually, or was it to be understood that as long as the work I should come to do was required to be done, and I was able by health and capacity to do it, I might consider my position assured? I was informed, by the three gentlemen named below, that I might regard the invitation to come here as a bond of good faith between the two parties and myself, which both would respect. I was particular to have a clear understanding from those with whom I was in treaty about this feature, that the engagement was to be for work to be done, not defined or limited by time; and that whilst no actual division of my time between city and State was ever made by any one, either verbally or in writing, I stated that I should give about three days a week to the city, and two days a week to the State, that being about in the proportion of my salary from the two sources, and this was approved of.

These preliminaries being agreed upon, I was formally offered the joint appointment by city and State, and on June 1, 1871, I accepted it, and have held it from that day to this.

Three men, who went through this whole matter with me at the time, know this is an absolutely true narrative of the events, even if the documents in my possession did not establish it beyond all question. Those three men are Charles C. Perkins, John D. Philbrick, and James White, all of whom are happily alive, and can therefore testify concerning it if applied to.

But the public, though often informed, never seem to remember this dual engagement; and people in Boston demand on what grounds I can justify my spending two days a week in the State Normal Art School, or addressing a teachers' meeting at Springfield; and people beyond the Berkshire Hills ask why I spend so much of my time in the Boston schools. I can only say that I have adhered wholly to the spirit and, as closely as possible, to the letter of my engagement. Sometimes my judgment has been exercised in the matter of division of time, when the interests of either of my employers seemed to require it; but as a rule I have always devoted the first three week days to the city, and the fourth and fifth to the State, and shared the sixth for general work between the two.

Having now been permitted to make this statement clearly, I shall never again recur to it, and I hope that new members, at least, of the school committee will see that I could not fully describe my duties in reply to their desire, as expressed in the words defining the scope of this report, without making as full an explanation of the matter as I have felt compelled to give.

I will now proceed to give (1) a general summary of what has been considered by me to be my general work, and (2) then relate, as an example, what has been done by me during the present year, and (3) how the work will probably require to be done next year.

GENERAL SUMMARY OF DUTIES BY THE DIRECTOR OF DRAWING.

The duties of the director of drawing have been to create a plan of instruction in drawing, and to organize the means by which it could be introduced and carried on.

This has involved entire responsibility to the drawing committee, to whom all plans of instruction, arrangement of normal and other classes, results of examinations, and other details of work and administration, are submitted and explained before being adopted and authorized by them.

The following have been among his duties:

Teaching.—(1.) Normal instruction to both the special teachers and the regular teachers of all the grades of the schools. This was begun in 1871, and has continued up to this day. In recent years, since the number of special teachers has been reduced, he has also taught in the normal school, and does so now.

Supervision.—(2.) The personal supervision of the high schools and evening schools, and such other schools or classes as appear to need his service, or he requires further information about than that which comes from general direction and examinations.

Examinations.—(3.) Preparing all plans of work, all papers or circulars to teachers, all examination exercises for every grade and every class in day and evening schools, the normal classes for teachers and the candidates for teacherships from outside, examining, marking, classifying, recording and reporting on all the exercises worked at examinations, and designating the subjects for which certificates are issued, or teachers diplomas are to be awarded by the committee.

Administration.—(4.) Advising with the drawing committee on technical subjects, such as changes of teachers; development of the subject; fitting class-rooms for drawing; selecting examples and illustrations for teaching; organizing for and arranging exhibitions of pupils' works, which for six years were annual, now only triennial; examining and reporting to the drawing committee the works so displayed; giving, when occasions need it, general lectures to the day-school teachers of all grades; referee, professionally, to the drawing committee on all technical matters appertaining to practical teaching and drawing.

(5.) Incidentally the designing of examples for instruction for the primary and grammar schools, without which the plan of instruction could not have been carried out.

This has been done. The high and evening school examples have been nearly completed, and are now being given in the high school normal class, though not yet published, and will so be available for the other grades more advanced or higher.

Change of duties.—The duties have been constantly changing as the subject has developed, and new wants have been felt.

Thus the class instruction which will be inaugurated in the high and grammar schools, will require continual assistance and supervision from him in those grades for most of the teachers will be new in the work, and the work itself is a new development made in the schools.

Though the instruction of teachers in the art of drawing is no longer necessary, normal instruction in teaching it is desirable, especially to the teachers of high schools.

The board of supervisors has been established since the director of drawing was appointed, and it is expected that he will in future act with them in details of administration connected with drawing.

Duties in the future.—These have been his duties, and, except so far as revision of the school system may demand, they will, in the main, continue to be the same, under the general direction of the drawing committee, and the more general direction of the school committee.

SUMMARY OF WORK DONE DURING THE PRESENT YEAR, 1879–'80.

Weekly work.—(1) Visited and examined the drawing in one or more high schools every week.

(2) Whilst they have been open, visited and examined the drawings in one or more evening drawing schools.

(3) Taught in the normal school every week.

(4) Given one original lecture to high school teachers, 3 to 5.30 every Wednesday afternoon. Designed and given them also a series of original specimen lessons for high-school pupils (not published).

General work during the year.—(1) Drawn up a new programme of instruction in drawing for the board of supervisors, arranging the programme for the present year. (Published papers, pages 47 to 60, in list of text books issued this year.)

(2) Prepared and delivered a general lecture to high school teachers, written 120 pages of MS.; addressed primary teachers, and consulted with some primary and grammar school teachers.

(3) Examined, judged, and marked the drawings of every evening drawing school, and of every class, 18 classes.

(4) Drawn up a complete two years' course of study for the evening drawing schools, as they are to be reorganized for next year.

(5) Written a report called for by school committee, which, with the appendices, covers 300 pages MS. (To be presented April 13, 1880.)

(6) Selected, purchased, and prepared for use, at my own cost, specimens of wall papers; and gave specimens of lace; and obtained, by gift, specimens of tiles and fabrics, for teaching design in high schools and evening classes; gave instructions for their use by teachers and distributed them to the schools.

(7) Held frequent consultations and correspondence with Mr. Perkins, and with Dr. Eliot, about drawing, &c.; also, with some teachers.

To finish year.—(8) Shall have to prepare examination exercises in drawing for the normal school, teachers' classes, and report names to the drawing committee to enable it to award certificates and diplomas to teachers; prepare examination papers for all day schools, and examine the exercises of the high schools, for final report.

I have spent three days a week, of at least eight hours a day, during school terms.

WORK PROPOSED FOR NEXT YEAR.

Weekly work.—(1) Visit and examine, work and consult with teachers of one or more high schools every week.

(2) Visit and examine, and mark students' drawing in one night school every week.

(3) Teach in the normal school every week.

(4) Prepare and deliver one normal lecture to teachers every week.

GENERAL WORK.

(1) General supervision. Assisting the high-school teachers to do without special teachers in high schools, and see that their work is done as planned in the programme.

(2) Examining schools, classes, and teachers in season.

(3) Do whatever of general work is to be done by a professional art instructor, or which I cannot know at present until it is needed.

The items of this year's work will show what I have done this year, and there will be as much, though it may be different from this, next year. The supervision of high schools next year will be very arduous, and the examination, week by week, of the evening school drawings will involve great time and labor.

(4) I propose to do whatever I am required to do by the drawing committee and board of supervisors, on three days of the week, of eight hours a day.

CONCLUSION.

I have thus given as full an account of this whole subject, and of my duties in reference to it, as the limits of a report will allow.

I have shown the nature of the work I came here to do, submitted the statistics which will enable the committee to see whether it has been done up to a certain stage or not; have defined the manner in which, on the basis of my present engagement, I propose to complete this work.

I am more anxious than any other person can possibly be that the committee should review this subject, and my work in connection with it, and try it by the test of worth and on the standard of public needs.

Between the committee and myself there has been mutual trust, and, as I understand it, scrupulous adherence to a common agreement.

I submit the record of my work in the past, and will, if allowed, complete it with confidence both in its value and its final success.

If, in the development of this question of education for industry, it has become necessary to reconsider the original terms of my engagement, and to change the conditions, I am more than satisfied.

If it should be considered advisable to more closely define my work, or change its nature, I am willing to consider the matter, and hear the proposal, as I did the first, when invited to do so.

The committee has been asked to decide upon my work, and this report furnishes it with the information and evidence upon which a sound judgment may be based.

The public good requires that it should either pronounce its approval of the work done as here recorded, and that to be done as here proposed—for that is the true ground of issue between the public and the committee—or determine that a mistake has been made which shall, in the public interests, and in the interests of education, be remedied.

By either decision the public will be served; and, in deciding, no personal interests should be considered.

With this final explanation, I submit my report to the school committee of the city of Boston, with the confidence an honest man should feel when his work is examined by his employers, to be condemned or approved.

WALTER SMITH,

Director of Drawing City of Boston Public Schools.

APRIL 13, 1880.

The only reference made to drawing in the report of the school committee for 1880 is in considering the evening drawing schools. Of these they say:

> These schools were established under a statute law, and, without doubt, are a source of great usefulness to those who take advantage of the opportunity thus afforded to improve themselves, or, if no more, to learn the rudiments in such departments of drawing as they can turn to advantage in their daily avocations. The law provides for "instruction in industrial or mechanical drawing," and it is a question if it be expedient or comprehended in the purpose of these schools, to go beyond those limits, into the forms of higher drawing and modelling. It is presumable that a portion of the pupils attend more to gratify the taste or love for drawing than to make use of the instruction they receive in their business pursuits. If so, a certain expense is incurred less for utility than to please a fancy. In the evening drawing schools the time given to each pupil attending is, on the average, one-eighteenth of that devoted to pupils in the day schools. It is evident from this fact that the comparative cost of the evening drawing schools is quite large. Another fact should be stated regarding these schools. Out of 281 pupils now attending, 51 are regular pupils of the day schools, where drawing is taught. However much we may favor the study of drawing, are we justified in the increased expense incurred for these scholars who have the benefit of this instruction in the day schools?

It is evident from these passages that the authors of this report are very far from comprehending, or, perhaps, from valuing, the service which, in the minds of those who first promoted the founding of these schools, they were expected ultimately to render. Their usefulness was first in affording opportunities for instruction to those mechanics and artisans who had received no early training in drawing; but as time went on, and the public school graduates, or advanced pupils, had obtained in the day schools sufficient elementary knowledge of drawing to enable them to profit by the evening school courses, it was contemplated that, in these evening schools, they would learn how to apply their knowledge to industrial purposes.

This was to be the great and crowning utility of these schools; but, in the fact that so many of the school children are thus utilizing them, the school committee of 1880 find cause for complaint!

Such instances show how slowly advance is made even in the most enlightened communities, and how all movements are sure at times to retrograde.

In the report of the director of drawing for this very year it will be seen that the purpose was to raise the standard of these schools, a purpose concurred in by the special committee, as will be seen in their report which follows.

That part of the report relating to drawing, as it gives interesting extracts from the recently published conclusions of European experts, who have examined the system of Professor Smith as seen in the Boston schools and in the Massachusetts Normal Art School, which judgments are of value to all who take interest in the subject, is given in full.

The committee recite the result of the removal of special teachers in the high schools, and congratulate the city that at last, after nine years of arduous effort, they have in their public schools a consecutive and harmonious progressive system of drawing, extending through all the grades; they call attention to the magnitude of the work accomplished by the director, and to the testimony given by the foreign experts to its value and importance:

In compliance with existing rules, we respectfully submit our annual report upon drawing and music in the public schools, although the first of these studies has been so recently and so exhaustively discussed by the director that but little remains to be said either about the past or present policy of the Board regarding it, or concerning the facts of any sort connected with its history during the last twelvemonth.

DRAWING IN THE HIGH SCHOOLS.

With the present term, drawing in the high schools took a new departure. There, as previously in the grammar and primary schools, it is now taught by the regular teachers, and thus the long-contemplated abandonment of special instruction in schools of all grades is an accomplished fact. In order to fit the high school teachers for the coming responsibility as far as possible, the director of drawing held weekly classes at the Appleton-street school during the winter and spring, at which he lectured, in a highly practical manner, upon the five subjects taught in the schools, showing not only the nature and scope of free-hand, model, memory and design, geometrical and perspective drawing, and of shading with point, stump, and brush, but also how they should be taught. Those who attended filled their note books with concise, clearly expressed definitions, as well as with diagrams copied from those drawn at the lectures on the blackboard, and thus carried away with them a valuable compen dium of the director's method of teaching, to be referred to when they should themselves be called upon to assume the master's place. Such lessons are to be continued during the coming winter and spring, in order that the regular teachers may be still further fitted for the task which they are now called upon to perform. The director also proposes to keep the high schools under constant supervision, with the view of aiding the regular teachers by his advice and encouraging them by his presence. By these means it is hoped that this coming year of trial (for such it will be to many who doubt their their own knowledge and ability to carry on the required studies satisfactorily) will prove less arduous than some persons have anticipated, and that it may lead to a success which will fully justify the adopted policy of discontinuing special instruction in the high schools. The table printed on page 15 of the director's report (Doc. No. 7) shows that out of 74 high school teachers, 30 have received a full diploma, certifying that they have passed examinations in the five subjects, that 15 have passed in two, three, or four subjects, and 29 in no subject or but in one. As the result of this instruction given to the high school teachers, upon the third or high school grade, we are able to record the qualification, by drawings made and examinations passed, of the following number of teachers in several schools: English High School, 5; Girls' High School, 2; Dorchester High School, 2; Brighton high school, 1.

In addition to these we have in the Girls' High, East Boston High, Roxbury High, and West Roxbury High Schools, regular teachers who hold a still higher grade of certificate to teach drawing, viz., the fourth or special drawing teacher's certificate.

With the single exception of the Charlestown High School, all the high schools are now amply provided with teachers. Where no master or teacher specially qualified to take charge of the drawing department already existed, the want was supplied by an exchange between two schools of one teacher for another, and in the West Roxbury High School, by making use of a portion of the time of the normal-school drawing teacher. Through these arrangements your committee hopes that on the completion of the present term drawing will not be found to have retrograded in the high schools in consequence of the new conditions under which it has been carried on, and that both from an educational and an economical point of view, drawing in the high schools under the regular teachers will be ultimately better taught than it ever has been under special teachers. We, however, think that in high schools conducted on the departmental system, such as the English High and the Girls' High, some person from among the regular teachers, specially qualified to teach drawing, should be appointed to take charge of it, and this because the work to be done by the advanced classes can only be directed by trained hands. Why should there not be a master of drawing in a departmental school as well as a drill-master or a master of mathematics? Would the principle involved be more violated by the one than it is by the other? In this matter, as it seems to us, the question of the wisest use of the teacher's time should be considered, and we believe that it would save time and waste of effort to put the work of teaching drawing into the hands of one person in such schools, rather than to assign it partially to several teachers, who might be better employed in teaching other subjects, of which they have greater knowledge.

FREE EVENING DRAWING SCHOOLS.

While the director of drawing in his late report to the school board advocated the reform in the high schools of which we have just been speaking, he also offered a plan of instruction, on the basis of class work, a two years' course, and professional teaching in the free evening drawing schools, together with new regulations calculated to insure regular attendance and more systematic work. A change in all these matters had long been considered desirable, but until the scheme was fully matured it seemed better not to attempt it. Here the director's knowledge and experience came fully into play, showing how important it is for the day as well as the evening schools to have some one person at the head of the whole department capable of planning courses of study, of testing the work done by the teachers as well as by the pupils, and of doing in general for drawing what the supervisors are called upon to do for other branches with which they are more especially familiar. Such work the drawing committee cannot undertake. It judges plans when proposed, and in case of approval recommends them for adoption, but it does not pretend to be able to originate them; it praises or condemns accomplished work, but it does not undertake to teach how to do it. These important duties are not within the competency of any committee, and can only be discharged by a specialist, whose life has been spent in teaching and planning schemes of instruction.

The new plan of instruction for the free evening drawing schools forms an integral part of the entire system adopted for day and evening schools. It is so nearly identical with that of the high schools, that a pupil on leaving the grammar school, whether he enters a high school or an evening drawing school, will continue the study of drawing from the same point, and by a similar course, to more advanced stages. The evening school plan is arranged for a two years' course of class instruction by lectures and demonstrations. The first year's course is elementary and general for all students; that of the second, applied elective in free-hand design, machine drawing, building construction, and ship-draughting. As arranged—and the remark applies to the high-school course as well—the programme is of that character which best suits the field properly occupied by such schools. The city should neither attempt to give a purely artistic education, such as may be obtained at the school of the Museum of Fine Arts, nor a strictly scientific one, like that offered to students at the Institute of Technology. Its legitimate province lies between the two, and touches the confines of each. Thus, what is learned in the city schools of underlying principles, methods of work, the handling of implements, &c., whether pertaining to the free-hand or the mechanical department, will be found useful to students, whether they enter the artistic or the scientific schools on leaving the city schools, or if, instead of entering either, they become wood-carvers, builders, mechanics, or handicraftsmen of any sort.

Up to the present time the free evening drawing schools have not been strictly confined to this their legitimate field; class instruction has not been uniform, and much individual instruction, according to the choice of the pupil, has been given. Now we are to have uniformity of class teaching and a fixed system of instruction. With this, and the more regular attendance insured by the new regulations, we may confidently expect great improvement in work, and great increase of usefulness in the right direction.

THE ENTIRE SYSTEM.

From the lowest classes in the primary schools to the most advanced in the high and evening schools, we now have a progressive course, pointing in one direction, pursuing one aim by one system. If we have taken nine years to reach this end, it is because the way was unexplored, and the methods of procedure necessarily tentative. We feel obliged to insist upon this, because we do not think that the novelty of the experiment is sufficiently realized, or the consequent difficulties justly estimated, save by those who know what has been or is now being attempted elsewhere. Even those who are especially conversant with its details do not realize fully the magnitude of the work done in Boston since the present director undertook it, until some foreign testimony throws a sudden light upon it, and encourages perseverance in a course which impartial eyes view favorably. Last year we were favored with a visit from an accomplished French artist, sent by the minister of public instruction, to observe and report upon the teaching of drawing in the United States. We have not yet received his report; but the following extract from a letter, written on the eve of his departure, will suffice to show what we may expect to find in it concerning our Boston system.

FOREIGN OPINION.

After expressing the pleasure he received from visiting some of the public schools, in which "he found the application of ideas entirely in harmony with his personal convictions," M. Régamey goes on to say:

"Without entering into the detailed examination of a method which I have not yet had the time to study seriously, I bear witness to the fact, that by it the means have been found to teach the elements of drawing to sixty thousand children without the aid of special instructors, and I applaud this result. It seems to me that the problem thus resolved has been answered once for all, and can nowhere meet with opposition, save from those persons who deny the general importance of drawing, and refuse to it the place accorded to music in primary instruction."

FRENCH METHODS.

Here it may be well to state, that the mission of M. Régamey is but one of the many evidences of the awakened anxieties of France on the subject of drawing as a part of general education. On the 28th of November, 1878, M. Bardoux, the Minister of Public Instruction, proclaimed in the Chamber of Deputies, at Versailles, "that henceforth drawing must be regarded as one of the indispensable elements of general education," and had the satisfaction of finding that among the five hundred deputies gathered from all parts of France—

"Not a single person (says M. Havard, in his remarkable letter on instruction in the fine arts) rose to declare that drawing, and consequently the fine arts, have nothing to do with the political organization of a country; that to teach them is unnecessary; that they play no part in the progress of civilization or in the development of the vital forces of a people."

What the minister advocated is what we advocate, and this is fully expressed in the words of the perpetual secretary of the Academy of Fine Arts in Paris, "that in our day every one should know how to draw, as they know how to read and write; and that from the point of view of advantage and utility there is no difference between drawing and writing." At the present time drawing in France is obligatory in seventy-nine lyceums, two hundred and sixty colleges, and ninety-eight primary normal schools, for girls as well as boys. We have before us the report of a discourse entitled "Drawing taught like writing," delivered in 1879 before the Society of Elementary Instruction in Paris, by M. Émile Reiber, an architect of distinction, as also a circular treating of "The immediate introduction of instruction in drawing into the primary schools." In the latter we read, in answer to the proposed question, "What measures are to be taken to insure it in forty thousand communal schools for which teachers are wanting?" Let us make use of the forty thousand primary teachers. Here we would ask, is not this what we have done on a smaller scale? So again to question number eleven, What kind of instruction shall be given in the adopted formula? M. Reiber answers:

"'Learn to draw as you learn to read and write.'" "'Writing being a kind of drawing, and primary school instruction admitting only of a generalized practice of graphic notation, or, in other words, the writing of forms, what we must teach is the writing of all forms in nature in all their positions, and for these nature herself furnishes models. Such a system of instruction will teach everybody to see correctly, and thus speedily raise the level of our national system of instruction.'" In this primary school we must teach the practical knowledge of forms, and as the generation of forms results from an aggregation of scientific immutable laws which regulate the combination of lines, the scientific synthesis of these laws must serve us as a general method for teaching drawing; or, in other words, the writing of forms in the primary schools."

It is now thirty years since M. le Comte de Laborde, in his report on the London Universal Exposition, spoke of the necessity of teaching drawing like writing. In France it was not felt until two years ago, seven years after it had been adopted by us in the Boston schools. We then declared that primary instruction in drawing was in no wise connected with art drawing; or, in other words, that, to borrow M. Reiber's words, it was a purely pedagogical question. He adds in a note:

"We shall end by learning that primary instruction in drawing, or the writing of forms, no more belongs to the Academy of Fine Arts than ordinary writing belongs to the Academy of Inscription and Belles-Lettres, or geography to the Bureau of Longitude."

To conclude this section of our report, we may refer to the course of graded instruction in drawing, prepared by L. D'Henriet, for French primary schools, in accordance with the articles of the new official programmes. The books or pamphlets are three in number. Number one, entitled Linear Drawing, deals with simple lines, straight and curved, and geometrical forms, and contains both figures and explanatory text. Number two, entitled Ornamental Drawing, contains elementary designs ased on geometrical shapes. Number three, called Imitative Drawing, that is, drawing in which the apparent form of object is to be imitated by the pupil, contains figures of common objects, such as pitchers, vases, candlesticks, &c., and also simple plant forms.

Any one who will compare our own elementary text books of instruction with the French books of the same grade will at once see that the system is identical; but as these are of recent date, and our own have now been in use for a long period, we have the satisfaction of knowing that the most artistic people in Europe have, by a similar process of reasoning, arrived at an identical stand-point, and have adopted similar methods.

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On behalf of the committee.

CHARLES C. PERKINS, *Chairman.*

OCTOBER 23, 1880.

The summer of 1881 saw the termination of official relations between the director of drawing and the Boston schools. The report of the school committee for that year contains no reference to drawing except incidentally under the topic of "Industrial Education." The volume contains no report from the committee on drawing and music.

The report of 1880 urged strenuously the establishment of free schools of industrial education, as a matter of simple justice to the graduates of the grammar schools who did not intend to pursue a mercantile or professional calling. The appropriations for such purposes rest with the common council. The remarks of the school committee on this topic in the report of 1881 follow. It will be seen that they regard drawing as an established study and recognize its direct relation to industrial training.

The persistence of the school committee in its yearly efforts and recommendations shows that there is a good deal of vitality and strength in this movement for supplementing the schools by technical industrial training.

The school committee has again repeated its formal vote of desire to test the feasibility of imparting to grammar scholars some of the elements of mechanical skill by whose final application so many of them must, by and by, earn their daily bread. The term industry, as applied to manual labor, is far too large to be adequately comprehended under any use of carpenters', machinists', or blacksmiths' tools. These are but portions of a vast field, which only a great number of special schools could make any pretension of properly traversing. But it is possible to meet some of the complaints which are so frequent, that the public education is so exclusively intellectual as to unfit the majority of youth for entering heartily into the ranks of manual labor, by directing certain pursuits of the school hour to the especial end of training the hand and the eye; so that, whatever the future occupation of the child, he shall not be utterly awkward and helpless in the every-day responsibilities of earning his living. Education may and ought to help youth to be self-reliant and "handy," as a mere bookish student is not likely to be.

The eminent success of the sewing instruction in the girls' school—a branch of school work for a long time looked upon with great distrust by most persons who had given any thought to matters of education—has afforded convincing evidence that it is possible to impart special manual skill without interfering with the established routine of study. The teaching of industrial drawing, now pretty firmly seated among the essentials of instruction, is quite within the line of training for the practical life of the manual worker. And so those who have watched the shop-work of the Massachusetts Institute of Technology, and the smaller experiment of the Boston Industrial School Association, in teaching boys the manipulations of a few varieties of mechanics' tools, from which training some have been known to go into successful positions in trades, have continued to feel, notwithstanding the disapproval of their plans by the money-appropriating authorities, that it would be no unwise venture to devote a small portion of the week in a few boys' grammar schools to an experiment of using hammers, saws, chisels, and like tools, under a competent instructor, with the design of enlarging the work as fast as its smaller operations should be shown to be of advantage.

A proposition of this sort, a few years ago, was heartily welcomed by some of the most sagacious teachers, as promising much good, while presenting few disadvantages.

REPORT, 1883.

The following extracts from the report of the committee on drawing and music give the latest published official accounts of the condition of drawing in the Boston schools. Full credit is awarded to the excellent foundation established for the successful development of the study by the early efforts of Walter Smith:

As, since the spring of 1881, the drawing department has had but one executive officer, acting under the direction of the committee, it would be unreasonable to suppose that drawing had been as thoroughly supervised as it was when the director was assisted by four or five special instructors in the work of inspecting classes, delivering lectures, holding examinations, &c., since it is manifestly impossible for one man to accomplish an amount of work amply sufficient to occupy the time of six well-qualified persons. Meanwhile, although the sphere of work has been constantly widening, no encouragement is given to hope that the executive, now reduced to the lowest possible point, will be increased in proportion to the demands made upon it.*

What could be done under present arrangements has been done by the director and the committee, and the result of examinations, with other details, given in this report, show that good, if not equally abundant, results have been attained. Obliged to discharge the multifarious duties of teaching, supervising, examining, and inspecting, in schools of all grades, as well as to deliver normal lectures, prepare certificates, tabulate the results of examinations, visit primary schools, and make written reports of his visits to the committee, as well as to attend the free evening drawing schools, hold annual examinations in them, organize an annual exhibition of the work done, and to be always ready to inform the committee on all matters relating to his department, the director, whose position is analogous to that of a general obliged to conduct a campaign without subordinate officers, is charged with an excess of work, which, however able and conscientious he may be, precludes thoroughness. His services are, however, in the opinion of your committee, of great value, and, indeed absolutely indispensable for the maintenance of the study as a branch of instruction. More than he has done cannot be done without the aid of several special instructors, whose reappointment would greatly strengthen him and assist the committee.

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* Mr. Henry Hitchings was the director of drawing at this time.

That we are able to carry on drawing so successfully as we do under existing circumstances is due to the past, which gave us a sound system of instruction, trained many teachers in the practise of free-hand and model drawing, taught the principles of design, substituted true for false models as objects of study, and both perfected and equipped the free evening drawing schools, which deservedly rank among the most useful institutions of the city.

Were the regular teachers equally well qualified to teach drawing, the results would be uniformly good, for there is little or no difference in the ability of the pupils to receive and profit by instruction. No difficulty is found in carrying out the programme in classes under the care of well-qualified teachers; and the director's testimony, given in a recent report to the committee, seems to prove that the quality of work done by the pupils depends chiefly upon the quality of the instruction given to them. In one primary district, at the last examination, he reports 20 failures in a class of 49, only 1 in a class of 47, and no failure in a class of 50. In a second district he mentions 16 failures in a class of 31, and but 17 in the remaining classes, whose aggregate number was 234.

Admitting, then, as these facts authorize us to admit, that results depend chiefly upon the teacher, and knowing that the quality of instruction varies considerably, it would seem wise to suit the programme to the average, rather than, as at present, to exceptional capacity. To this end we should advise the simplification of the text-books by the elimination of some definitions as too abstruse, of a number of examples as too difficult, and of others which, as all cannot be used in the time allowed for drawing, crowd the book pages to no purpose. Thus reduced, the text books would still include enough of geometry, free-hand, design, and perspective to make up a fairly representative course, calculated to teach pupils how to represent form correctly, and how to combine plat forms on a geometrical basis in design.

In regard to the study of perspective, as at present planned, we are altogether of the director's opinion, expressed in the following paragraph from the report already referred to:

"The theory of perspective is an important factor in teaching model and object drawing, and instruction in it is absolutely essential; but the time now spent in working out a large number of problems in scientific perspective might be better employed in obtaining a clearer comprehension of the theory of perspective, and in additional practise in drawing from models and objects."

Were this advice followed, and geometric perspective altogether omitted, we think that the programme would be far more satisfactory than at present. For the proper teaching of design we stand in need of a short manual, containing a clear and concise statement of principles. This would lead to uniform methods of instruction, and promote sound results. We subjoin the director's report of examinations in day and evening schools. * * *

FREE EVENING DRAWING SCHOOLS.

Your committee is of the opinion that, to make the evening drawing schools completely serviceable, they should offer facilities to wood and stone carvers for modelling. It might be difficult to do so in all; but in one at least, as, for instance, at that in the Latin School building, the demand for a modelling class is imperative. As the rooms now appropriated are crowded, at least one more room would have to be fitted up in the building; and, as there are now several vacant rooms on the same floor, the committee think there would be no difficulty in obtaining one of them for the purpose. The present term has opened most satisfactorily in these schools. Most of them have a number of candidates waiting for admission when vacancies may occur.

At Tennyson street the attendance has been as high as 127 per night, with an average of 100. The regular and average attendance at Warren avenue is still higher; and at Roxbury and Charlestown the classes are full and increasing. The East Boston school, which had to be closed last year for want of proper accommodations, is shortly to be reopened in Stephenson block, corner of Meriden street and Central Square, in well-situated premises, hired by the city on a long lease.

The concluding portion of their report, which describes the recent movement in England for embellishing school rooms with art objects, will be found in the opening chapter of Part II of this report, in connection with the account of the collection of casts in the Newton Street Girls' High School of Boston.

CHAPTER VI.

DRAWING IN OTHER STATES.

Brief accounts of the introduction of the study of drawing in Maine, New York Ohio, and the District of Columbia.

INTRODUCTION.

The space requisite for detailing the history of this movement in Massachusetts, from its earliest inception, of necessity precludes like details of the steps taken by other communities.

Two States have followed the example of Massachusetts in legislation in regard to the study of drawing, and in Maine and in New York, it is now in the list of studies which are required by law to be taught in the public schools. A brief account of the movement in these States follows.

In each will be noticed the omission of one of the most important features in the Massachusetts plan—that is, the special school for the thorough training of art masters, fully qualified to introduce and supervise the new study in the schools of towns and cities.

A normal art school is essential to the full success of the experiment; until this is provided, there may be makeshifts and temporary provision for some instruction to the teachers, but there never can be that thorough systematic training which is absolutely essential to the successful execution of the plan of providing, by means of free public instruction in all the schools, such art training as shall result in the improvement of the industries and manufactures of the country.

While it would not be possible, from lack of space, even in this extended Report, to give, at length, accounts of the efforts made by many cities and towns in the country to introduce this study, in order to meet the demand for a more practical education in the schools, it has been thought advisable to recite the methods adopted in a few cities and towns outside of Massachusetts; partly, to show how general was the conviction of the necessity for some modification of the curriculum of the public schools, and also how successfully experiments in the introduction of this new study had resulted in different communities.

It was largely due to the efforts of single communities in Maine, and in New York, that ultimate State action was brought about.

The favorable verdicts of the educational officials on the result of the introduction of drawing in the schools of Milwaukee, and several other cities, were widely circulated, and, for that reason, are not referred to here further than to note the fact that the school authorities of these Western cities were as well satisfied as to the value and feasibility of this new movement, as were those of the leading cities of Massachusetts.

It has been found possible to give a sufficiently comprehensive though concise account of the movement in the State of Maine which resulted in the passage of a law similar to that of Massachusetts.

The material for giving a like history of the movement resulting in the legislative action of the State of New York is not available. It seems, in fact, to have been urged on the legislature by individuals rather than by formal bodies; and, indeed, incited by the example of Massachusetts, many cities and towns had, in advance of legislative action, initiated the movement in their own communities, so that the members of the legislature were, in many cases, well informed from personal observation, and needed no further argument to induce their action.

One example may here suffice. In the inland city of Syracuse, N. Y., interest in this study was early manifested, and the official action of the city educational authorities in introducing the study in the high school, even preceded the action of the Boston authorities in calling Walter Smith from England. An interesting account of this experiment, followed by a report upon the subsequent introduction of the study into the public schools of the city, precedes the statement of the official promulgation, by State Superintendent Gilmour, of the passage of the law in regard to teaching of drawing in the public schools of the State of New York, and his directions in accordance therewith.

The study was soon introduced in many of the cities and larger towns of the State. In so far as the act was mandatory upon the normal schools, a comprehension of the necessities of the case was shown; but the legislature did not rise to an appreciation of the necessity of establishing one or more normal art schools; yet, if they wished the study to extend successfully throughout the State, the establishment of such schools would seem an essential prerequisite.

In New York City, Cooper Union endeavored to meet the demand for trained teachers by instituting a normal class, which still exists, and has done good service for the State. Brief statements of the recent condition of drawing in the city schools follow.

Reports of the efforts made in the cities of Cleveland and Cincinnati, Ohio, with a somewhat detailed history of the experience of the public schools of Columbus, Ohio, the latter in part kindly furnished me by Professor Goodnough, are given.

A full account of the successful methods adopted in the city of Washington, D. C., which I have watched with interest from their first inception, close this part of the report.

The accounts of these experiments in so widely separated communities are to be regarded as supplementing the Massachusetts experience and as demonstrating that any community will be fully justified in making similar efforts.

In addition to these detailed statements, a large mass of testimony, collated from the official reports of school and educational officials in many States, has been brought together, and is presented in the chapter following this; the whole comprising a valuable compendium of the results of actual experiments, and a variety of suggestions by persons well qualified to form and utter opinions upon educational topics.

The information thus compiled illustrates many of the phases of the present agitation in regard to a modification of the former system of instruction in the public schools, while the details of methods adopted and of results attained, can hardly fail to form a valuable contribution to the consideration and discussion of the whole subject of the modification of education by the introduction of industrial, artistic, and technical features.

DRAWING IN THE STATE OF MAINE.

The example of Massachusetts in thus endeavoring to direct the elementary education of the public schools towards the improvement of the industries of the commonwealth, was not lost upon the neighboring State of Maine, as is shown by the following extract from the Annual Report for 1870, made by Warren Johnson, State superintendant of common schools:

> The natural features of Maine plainly indicate that her field of activities lies chiefly in the industrial pursuits. Her climatic conditions, her vast reservoirs of power hid among the elevated hill and mountain basins, the substantial ledge foundations over which this power is precipated by its own gravity towards the sea, the cheapness and proximity of building material, the accessibility to the chief water powers, all indicate what Maine *ought* to be—a manufacturing State. The school-room work should contribute to success in this direction. The course of study and the methods of instruction should be such as to develop and direct strongly the inventive and constructive faculties of the mind, especially training the eye to the nicest observation, and the hand to the most delicate manipulations. Probably no branch contributes more directly to the latter results than drawing in its sevoral branches. Free-hand and mechanical drawing are especially desirable in our schools, the former for primary school children, the latter for pupils in attendance at grammar and high schools, and for adults in private or evening schools. Drawing has been made one of the common school branches in Massachusetts, and much attention is being paid to its introduction in the various schools in manufacturing centres. Into these schools are attracted not only the youth within school age, but young men and women from the various shops and manufacturing establishments. An account of the happy results from these efforts to educate and refine the tastes of our common artisans would be both pertinent and interesting, but must be omitted at present.
>
> To direct the attention of teachers and educators towards this subject the services of Prof. John S. Woodman, Chandler Scientific School, Dartmouth College, were secured last fall in a few of our county institutes. Professor Woodman has had long experience in teaching in the department of drawing, and presents with remarkable clearness and quick facility the salient points involved in a systematic presentation of his subject. His labors were confined to the institutes in our manufacturing dis-

tricts, and were well received by a large proportion of the teachers. The fruits of his valuable instructions will no doubt appear in our better class of schools. Much interest was awakened among adult mechanics and operatives to special instruction in mechanical drawing. A large class has already been formed in Lewiston, instruction being given to adults in an evening school. In Worcester, Mass., young men and women have not only exhibited a wonderful desire to become proficient in this direction, but are now asking for instruction in the kindred studies of geometry and mechanics, and advanced mathematics. Certainly this is a healthful direction for their mental activities to find exercise.

In view of the ultimate necessity of drawing to perfect mechanical skill, and its undoubted influence in developing and cultivating popular tastes and inducing a true and fine appreciation of the beautiful, I would recommend an enabling act, by which towns desiring may provide for instruction in drawing for any persons over fifteen years of age, by evening schools or otherwise, either by additional taxation or by appropriations from the school moneys.

In addition, among the formal recommendations made by the superintendent in reference to desirable legislation, was one "to require instruction in drawing in town high schools, and allowing the same in grammar schools."

In 1871 the legislature enacted that—

ITEM 3. Any city or town may annually make provisions for giving free instruction in industrial or mechanical drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the superintending school committee. (Act of 1871.)

This law, it will be seen, permits such action. In his report for 1872 the State superintendent thus treats the topic of—

BRANCHES OF STUDY.

The statute prescribes the branches in which the teacher shall be examined before obtaining certificate of admission to the public school room as an instructor. From this we are to infer that studies may be pursued in the school room. All branches prescribed in the law are important, and constitute a reasonable limit when the enactment was made. But home and business life demand more now than formerly. Health and comfort require that we all know something about our physical constitution and the rational methods of caring for the same. Hence the desirability, yes, the necessity, of understanding the elements of physiology and hygiene. The laws of mental development require the training of the senses, or sense organs, first, then the intellectual faculties. Of these sense organs none are more important than the eye and hand; hence the value of free-hand drawing. The skilled eye and trained hand mark the first-class workman in every industrial pursuit. I have taken occasion heretofore to urge the importance of these two branches, and will not repeat my argument. I beg to refer the reader to Mr. C. B. Stetson's paper on drawing, page 173 of the Appendix. I recommend that both physiology and free-hand drawing be added to the branches prescribed by law.

He also renews his recommendation of the previous year that the study be added to present list of prescribed studies.

In addition to the article on industrial drawing by Mr. Stetson here referred to, the Appendix also contains the interesting letter on "Technical education," by Louis J. Hinton, a trained English stone cutter, which appeared in the annual report of the United States Commissioner of Education for 1870; also from the same report, an article on the

"Present condition of education among the working classes," prepared by Col. Richard J. Hinton; followed by copious extracts from the second Annual Report of the Massachusetts Bureau of Statistics of Labor.

In his report for 1873, Superintendent Johnson returns to the subject. Having published with approval several pages of a course of study for public schools prepared by State Superintendent H. D. McCarty, of Kausas, he thus proceeds to express, in treating of the topic of artisan education, his own ideas of the purposes and possibilities of public free education by the State:

ARTISAN EDUCATION.

The chief noticeable defect in the foregoing course of study, as applicable to the wants of our youth, is the limited instruction allowed in the elements of the natural sciences, applied mechanics, and drawing, free-hand and instrumental. Our chief business in the future, as a State, plainly must be manufacturing; not producing from the soil for subsistence, but converting nature's products into forms and fabrics for protection, comfort, and luxury. In the past our people have largely been "hewers of wood and drawers of water." Not in an obnoxious sense do I use the expression. Our energies have been largely devoted to marketing simply the raw material.

* * * * * * *

We must now enter the competition of thought, skill; our labor must be directed by keen, quick intelligence; our energies must run out, not through the strong arm, rude brawn, but through active, clever brain force and the cunning hand. Ours is now a competition of intelligence, not brute force. Accepting the situation, we must prepare for it. How or where can we better prepare for this honorable competitorship than through and in our public schools? I confess to a degree of mortification when I find, in visiting our larger shops and manufactories, that the "head men," the designers, the draughtsmen, the skilled labor, are found to be mostly imported either from the other States or foreign countries. Massachusetts, sensible of this vitally weak point in her industrial progress, provides generously for technical schools and a State Normal Art School. Maine possibly is not quite ready to take such advanced steps, but certainly her educators can so modify the present curriculum of school studies, particularly in the cities, larger towns, and manufacturing centers, as to enable our youth to meet the demands of the near future and to enter the lists of successful competition with other craftsmen and artisans. * * *

Certainly if we desire as a State community to maintain fair rank in honorable progress and substantial development with other communities, and would not sink to the dead level of comparative insignificance and powerless influence, our school officers must take into serious consideration the question how best to provide for the necessities of our great army of laborers in shop and field.

Such a modification in our school work is demanded by agriculture, by manufactures, by mechanical trades (in the decay of the apprenticeship system), by general intelligence, by the mental discipline of the youth themselves, and by the general progress of public education. Allow me then to urge my brother school officers in the exercise of their inspectory duties to consider not only the manner and methods of the teacher's work, but the subject-matter of the school studies. The common rudimentary branches of course must take precedence; they are the first steps through which the child makes further advancement. Reading, spelling, writing, sense culture in form, color, qualities, and quantities, number, observation, and description of natural objects, social and religious duties—all these should be ingrafted early into the child-life. Then should follow the study of self, physiology, and hygiene; the facts and forces of nature, involved in the single term, physics; business terms and relations, the keeping of accounts and letter-writing; the elements of geometry and drawing, which underlie skilled labor and industrial progress; the duties of citizens, social, State, and national; also the general outlines of State and national governments, and the plain lessons to be learned from general history; while with all and through all should be instilled the graceful and chastening influence of refined manners, pure morals, and the perfect precepts of the Christian religion. Taking the child from the mother's knee, and leading him through primary, intermediate, and high school grades up to the threshold of college, certainly up to the period of manhood, educators and school officers assume a responsibility which can be discharged only by the most careful application of means to ends and a conscientious discharge of obligations voluntarily assumed in the interest of child, parent, and society.

Of ten "recommendations to school officers" for their action, two are on the same subject, namely:

3. Modification of present course of studies to meet the demands of skilled labor and the industrial interests of the State.

9. The establishment of drawing, technical, or art schools in manufacturing centers for minors and adults.

In his report for 1874 Superintendent Johnson embodies an admirable article of some twenty-five pages, by Mr. C. B. Stetson, entitled "Drawing: what it is, and why it should be taught in the public schools."

Mr. Stetson's practical experience as a teacher gave authority to his views upon the practicability of adding another study to the already crowded list, while his special studies with a view to adapting the public-school training to the new industrial demands—a question to which, at that time, few Americans had given as thorough or as intelligent consideration as himself—eminently qualified him to speak upon that topic.

I quote his words upon these two subjects:

ROOM FOR DRAWING.

We often hear it said that the course of study in the public schools is already so crowded that there is room for nothing new; and again, even if there was room, that nothing but English branches should be taught in the public schools, as though drawing and natural science were not English quite as much as arithmetic or geography. To all which there is good answer.

Cut down some of the studies now in the public schools, for they occupy much more space than they deserve. Make an earnest effort to give each study just the attention it ought to receive, and in making the effort do not be misled by the simple local requirements of to-day, but remember that in this age there is no standing still for any one, and in this country no caste—no assurance that any child will live and labor in the neighborhood where he was born, doing what his father did before him. Indeed, the child attending school in the most secluded rural district should be considered educationally the child of the whole country, as he really is, and liable to make his home anywhere and to engage in any pursuit.

Again, there should be more or less alternation of studies; that is, a study should be vigorously pursued for a season and then dropped for a season. Were this done in grammar and high schools the pupil would never be obliged to divide his attention among too many things each day, as even now he usually does much to his detriment. This great evil is not so frequently seen in ungraded country schools, where liberty of selection prevails. Of most graded schools it may be said, in the primary division the pupils, since their attention can be kept only a short time upon one thing, are not taught a sufficient number of things concurrently, or during the course, either for their happiness or for their intellectual health. In the grammar and high school divisions, on the other hand, the pupils having acquired self-control and the power of continuous attention, are engaged upon too many things concurrently for either their intellectual or their physical good, and yet the course, considered as a whole, is too narrow, if only there was a judicious alternation of studies. I entertain little doubt that if half of the time now given to arithmetic in grammar schools were distributed between algebra and geometry, the pupils would finish the course with a better knowledge of arithmetic and with their knowledge of algebra and geometry a clear gain.

The young learner who pursues any one of the leading studies continuously—in language, mathematics, science—must either advance at a snail's space, and thus acquire a dawdling habit, or he must soon come upon difficulties beyond his ready comprehension. Now, I do not believe in the snail's pace, but in the reverse; and so when the immature pupil comes to where he cannot advance without extraordinary effort on his part, and a vast deal of assistance from the teacher, I would have him stop a few months and *grow*, meantime giving his attention to something better adapted to his immature powers. Light gymnastics, physical or mental, are best for him who is growing. Again, most persons, and especially the young, tire of studying the same thing without cessation for years. Intervals of rest are renewals of zest, in study as in other matters. Again, the pursuit of that larger number of studies during a period of several years, which alternation permits without loading the daily school programme and distracting the attention of the learner, exerts a decidedly favorable influence upon each separate study. This results from the interdependence of studies, and from that general power acquired by the learner which can only come from breadth of culture. It is a grave error to suppose that any one study can be best mastered by the young learner if he gives his uninterrupted attention to it for a long period.

Thus, by judiciously cutting down studies already in the public schools and by alternation, room enough can be found for all the new studies—there are others besides drawing—which should be made compulsory. But it will be said: "We are not ready to cut down other studies; not ready for alternation." Then do with drawing as so many others are doing; give it a fair share of space in the present school programme; examine and promote pupils in it as in arithmetic. Be in earnest with drawing, else leave it wholly alone.

THE UTILITY OF DRAWING.

Already I have more than once alluded to the utility of drawing, both in the way of culture and in its application to industry. It would be an easy matter to fill a volume with illustrative examples of this two-fold utility. Whoever carefully reads the account I have given cannot fail to perceive, if he is at all acquainted with the philosophy of teaching, that drawing must afford an admirable discipline, and must exert a favorable influence upon every other study. I entertain little or no doubt that drawing of the character I have described, when properly taught, saves, by its favorable influence upon other school studies, all the time it demands for itself. Again, since its special province is the representation of form and the development of taste, so far as taste relates to form, its direct bearing upon the daily life and happiness of all, and upon all kinds of industry, must be obvious to every one who stops to think. Producer, vender, and consumer are profited by its lessons. In the summary of an inquiry as to the best education of workmen, made by a distinguished French imperial commission, a few years since, occurs this sentence: "Among all the branches of instruction, which in different degrees, from the highest to the lowest grade, can contribute to the technical education of either sex, drawing, in all its forms and applications, has been almost unanimously regarded as the one which it is the most important to make common." On such a question, French authority is the best in the world. French education conforms to the opinion expressed in the words quoted. Whoever attends the centennial exposition at Philadelphia will behold the results of such education, not only in France, but in other European countries, where drawing is made the foundation of all manufactures and of all art.

In connection with this article a dozen pages of lithographic reproduction of "drawings, executed by pupils in the schools of Pembroke, under the charge of J. Marshall Hawkes,"—the lithographic plates made by L. Prang & Co., of Boston—were appended as examples of the actual work done by pupils after a few months' practice under the sole tuition of the regular teachers of the schools.

The superintendent's report for 1875 contains articles on "The relation of education to labor," by Prof. M. C. Fernald, State College, Orono, and on "Drawing in the public schools," by J. M. Hawkes, principal high school, Pembroke. From the latter the following remarks, upon the fitness of the study for very young children, are taken:

> Let drawing be considered as a part of the usual course of study from the commencement of the pupil's career. Many localities have failed in their efforts to introduce this branch, because they commenced at the wrong end of the course. I have known many objections made to commencing the study by advanced pupils, but not a single instance of the kind in the primary grades. The little pupil, exhausted by doing nothing, eagerly seizes upon the opportunity to do something—to make something—in the idle moments which usually fall to his lot in most primary schools. Again, there is a period in childhood or immature youth, when the mind, with avidity, strives to analyze every object within its reach. This is the golden opportunity to impress upon the child's mind, so readily impressible, those forms, shapes, &c., which enables him in an advanced course to so readily illustrate by correct definition any form, however simple or complex, which he meets in other branches. Froebel recognized this element in the child's nature when, as one of the early Kindergarten gifts, he placed the dissected cube, knowing well how soon it would be separated into its several parts, to be again and again restored, until the symmetry and regularity of its form would be indelibly impressed. Then, the next use was to construct other shapes from these smaller cubes, all geometrical, yet regular in outline and symmetrical in arrangement. This, too, was to be accomplished ere a child entered a school—so-called. Afterwards, with slate pencil or crayon, he essays to reproduce those forms, which are simple combinations of straight lines under the direction of the teacher, proceeding in logical order from the known solid to its unknown representation. Such progression must be accompanied by a clear understanding, because it is logical. At this age, also, the time of the pupil *seems* to be less valuable than at a later period, especially for elementary work; but it better be later than never.
>
> Remember, also, that at this period the child has no prejudice against any branch. He looks upon drawing not as an innovation but one of the regular studies. Some parents very unwisely object to their older pupils commencing to learn the elements of drawing when they have nearly finished the course at school, because the little that will be acquired will hardly repay for the consumption of such valuable time. So, as a question of *expediency* only, commence in the primary grades, letting the older pupils graduate from the schools without receiving such instruction, rather than combat such determined opposition as has been experienced in some localities.
>
> It should be taught as a daily recitation, occupying from ten minutes at a time in the primary schools to not exceeding forty-five in the higher grades.

By the extracts given it will be seen that the educational authorities of Maine were fully alive to the new movement. So much space has been given to the history of the adoption and progress of the experiment in Massachusetts, that much less than would otherwise be desirable can be recorded of the movement in other communities.

DRAWING IN THE STATE OF NEW YORK.

THE SYRACUSE HIGH SCHOOL, SYRACUSE, N. Y.

As showing the interest felt throughout the country in the subject of the introduction of the study of drawing in the public schools, the instance of the Syracuse High School is in point. In 1869, one year before the legislature of Massachusetts passed the law making drawing one of the regular studies of the public schools of that State, an art department was founded by the city board of education in the high school of this inland city of New York State.

Instruction in drawing was given to all pupils of the school, and to such others as obtained permission to attend this class from the city superintendent. There was also a teachers' class for teachers in the public schools; others could join this class on payment of $12 for a course of 12 lessons of four hours each.

Instruction was given in geometrical, perspective, and free-hand drawing. A four years' course was arranged, to the grades of which pupils were admitted as proficient: First year, geometrical drawing; second year, perspective; third year, model and object in outline; fourth year, model and object in light and shade.

Three hundred and eight persons attended these classes in 1874—102 males and 206 females—divided in classes as follows: First year, 77; second year, 83; third year, 50; fourth year, 28; teachers' class, 70. The classes were under the charge of Mrs. Mary A. Hicks.

The school possessed no casts of sculpture, few other casts; 70 models, 250 patterns, and 50 drawings.

In the annual report of the board of education of the city of Syracuse, for 1875, is included a report upon drawing in the public schools, made by a special committee who were invited to examine the work of the schools for the year during which the course in the different classes had been for the first time fully organized and arranged.

This special committee consisted of President M. B. Anderson, LL. D., of Rochester University; Dr. H. B. Wilbur, superintendent of New York State Idiot Asylum; Mr. J. L. Silsbee, architect, Syracuse; W. A. Duncan, president of the board of education, and Hon. George S. Batcheller, member of assembly from Saratoga County.

Mr. Batcheller was unavoidably absent, but the other members of the committee made a thorough examination of the specimens, and published in the city papers the following report, from which, however, the awards and references to the special city schools have been omitted:

The committee have examined the drawings of the pupils of the public schools of Syracuse with great interest. They have been impressed by the correctness, taste, and skill which the drawings indicate, and also with the rapidity of the improvement shown by the marked progress in execution, in the change of any one grade of schools to the next higher; and also in view of the little time that has been given to this branch of instruction. Those members of the committee who also examined the work of these same schools a year ago see a marked and gratifying advance in the character of the drawings, and all are united in a recognition of the ability and enthusiasm of the lady who has the general charge of this department, and the fidelity with which the teachers have discharged their duty. It may be worth while to notice the admirable mode in which the drawings were arranged for the committee's inspection, and it is to be hoped for quite general public examination, in which case those most interested in the public schools—namely, the friends of the children as well as others who contributed means for their support—would doubtless come from such survey with the same general conclusion that the committee felt.

It is well known how naturally and spontaneously children take to drawing rude imitations of objects or pictures when once slate and pencil are entrusted to their hands. Here there may be seen, in the progressive series of drawings exhibited, how from these crude attempts of childhood at imitation may be developed, with hardly more than a mere suggestion by the teacher, ability to execute mechanical and free handed drawings requiring the exercise of no small amount of judgment, artistic skill, and taste.

And this withal, not in the case of a few individuals specially endowed, but in the average pupils of our public schools. And it is to be borne in mind that these results have been secured by the labors of teachers who are, perhaps, but little in advance of their pupils, and who in that regard are by no means as competent as will be the teachers of the next generation, who will have had their training in the art in the formative period of their lives. The testimony of the teachers is, as might be expected, that the children are easily interested in such work, so that it is rather a recreation than a task. It is even quite possible that the children are further advanced in their other studies by reason of the life and interest excited by the drawing lessons. At all events, as to the exercise itself, it may be said, that it interests the children. It will be remembered that one very good test of the disciplinary value of any subjects of instruction is the degree of interest that can be excited in the pupil's mind in relation to it.

As has already been intimated, the work is so eminently progressive in its nature, that any one who views these drawings can see how naturally a child can be led along from the simple lines on the slates, from the primary schools, up to the quite elaborate exercises of the normal class in the high school. In scarcely any other branch can the steps of instruction be so nicely adjusted to the pupils' needs as in this. The grade of ascent, so to speak, can be positively arranged to meet every case. But no matter at what point of the series any pupil may be constrained to leave, what he or she may have already accomplished will tell in a certain practical way in every lot or calling in life to which they be assigned.

In this connection it occurs to your committee to say, that if this much can be attained in the very small amount of time allotted to this branch in the general scheme of study in our public schools, would it not be well to give it a little more prominence and a little more time?

Drawing has so long been regarded as a mere accomplishment, and as needing a special aptitude, that it will take some time for the public mind to be educated up to the conviction that any one can acquire it if taken at proper age; and that scarcely any elementary study has so practical a bearing upon the daily life of the average graduate of our public schools as drawing, properly taught.

Leaving entirely aside those considerations which are commonly advanced in favor of the cultivation of art in general — common to all arts — the committee will confine themselves to a suggestion or two upon the strictly practical advantages of the study of drawing, as it can be compassed in an ordinary common school course.

Perhaps it may be well to narrow the question still more, and allude only to its influence upon those who are to be engaged in mere mechanical employments. These very drawings on exhibition show training of eye and hand; of judgment in size and form and proportion; of accuracy of measurement; of inventive faculty; and these habitually exercised at a time of life when correct habits are most easily formed. Such habits and such acquirements are the only foundations for success in any line of mechanical industry. These qualities once possessed by an individual, make him the master-workman, perhaps; able to interpret the plans and instructions of the architect or superintendent; apt in design; able to direct the details or suggest the most direct means to accomplish any given mechanical ends, or to solve some of the intricacies of the problems in practical mechanics. At all events, it will make him the skilled workman, to earn the highest wages of his class by his full comprehension of the tasks assigned him, and the accuracy and thoroughness with which he performs them.

As it is well known, under the old system no small portion of the time of apprenticeship was spent in acquiring those elementary notions and that elementary skill of hand which might have been easily acquired before the boy left his school; and this preliminary practical judgment and dexterity is no small part of every trade-knowledge. It is related of the English ship carpenters, that when the change was made from wooden to iron vessels, in the absence of skilled iron-workers, they were temporarily employed, and it was found that, with a short stage of apprenticeship, they became expert in the new employment.

Your committee believe that the study of drawing in the public schools has just this direct practical effect: to shorten the apprentice stage of mechanic life, and so prove an economy of materials and an economy of effective industry. It will increase the value of all mechanical labor by the habits of accuracy and dexterity with which it furnishes the boy emerging from school life.

The tendency of our time is to a more thorough and enduring workmanship in architecture; to a greater perfection in machinery; to labor-saving inventions, and to what is sometimes called decorative art, in its manifold forms. These all demand skilled labor, and it will be noticed that those nations where drawing has been taught in the elementary schools have hitherto taken the lead in such profitable industries.

But the influence of such training and such habits upon female character, and in household occupations, would hardly be less favorable, as your committee are convinced, though they will not swell this report by any attempt to illustrate this thought.

We close by urging the people of the city to visit this exhibition and see what has already been done, and to consider the possible, or rather the probable, results of this instruction in increasing the effective capacity of the pupils in after life.

We are sure that with such observation and reflection a judicious system of drawing in the public schools will commend itself to the approval of every intelligent person.

M. B. ANDERSON,
H. B. WILBUR,
J. L. SILSBEE,
W. A. DUNCAN,
Examining Committee.

OFFICIAL ANNOUNCEMENTS CONCERNING THE LEGAL STATUS OF DRAWING IN NEW YORK STATE.

In accordance with the act of the legislature, Hon. Neil Gilmour, the State superintendent of public instruction, issued the following circular to the various local school authorities of the State, which is included among the documents accompanying the twenty-second annual report of the superintendent of public instruction, dated January, 1876:

CIRCULAR IN RELATION TO INDUSTRIAL DRAWING.

STATE OF NEW YORK,
DEPARTMENT OF PUBLIC INSTRUCTION,
ALBANY, N. Y., *August* 2, 1875.

To the ——— *of the* ——— *:*

The following is a copy of an act passed at the last session of the legislature, to which I invite your careful attention:

CHAP. 322.

AN ACT relating to free instruction in drawing, passed May 14, 1875; three-fifths being present.

The people of the State of New York, represented in senate and assembly, do enact as follows: SECTION I. In each of the State normal schools the course of study shall embrace instruction in industrial or free-hand drawing.

SEC. 2. The board of education of each city in this State shall cause free instruction to be given in industrial or free-hand drawing in at least one department of the schools under their charge.

SEC. 3. The board of education of each union school, free school district, incorporated by special act of the legislature, shall cause free instruction to be given in industrial or free-hand drawing in the schools under their charge, unless excused therefrom by the superintendent of public instruction.

SEC. 4. This act shall take effect October first, eighteen hundred and seventy-five.

It will be noticed that the act is mandatory in regard to normal schools and the schools in cities, in some of which drawing already forms a part of the regular course of instruction. The act takes effect on the 1st of October next, and by that time the board of education of each city and the local board of each normal school, in which drawing does not constitute a part of the regular course of study, should be prepared to comply with its requirements. The department desires to have this law enforced faithfully, and with reasonable promptness, and at a future day will require, from those having the management of schools affected by it, reports showing what steps have been taken in that direction, and what progress has been made.

I leave it to the local board and faculty of each normal school to arrange all matters of detail necessary to give effect to the act, so far as those schools are concerned.

In cities and in free school districts incorporated by special act of the legislature, the board of education have the right to determine in which department of the schools, under their charge, instruction in drawing shall be given, and they may select either the primary, the intermediate, or the grammar departments. I suggest, however, that the beginning be made in the grammar schools, and that the instruction be given to all classes in those schools.

It will be observed that the intention of the act is especially to promote the study of industrial drawing, which embraces "free-hand" drawing. The department suggests that, during the first year, systematic instruction should be attempted in at least the following named subjects of the study: Free hand outline drawing from flat copies — that is, printed copies; the elementary principles of original design; free-hand model and object drawing.

Instruction in these subjects can be carefully graded for primary, intermediate, grammar, or high schools, and the exercises should embrace the following features: Geometrical forms; memory and dictation exercises; conventionalization of forms; the principles of elementary design; the principles of free-hand perspective.

These suggestions are not, of course, intended to apply to those schools in which a system of instruction in industrial drawing has already been introduced.

In beginning the study, I recommend the employment of special teachers for a time, to instruct the regular teachers and supervise the work done in the schools; but drawing, like other branches of study, must ultimately be taught by the regular teachers.

I also advise the examination and promotion of pupils in drawing, the same as in other studies.

The importance of a practical knowledge of the principles of free-hand drawing is not likely to be overestimated. It has been recognized by the authorities in Europe and by those of several of the States of our Union. It should, therefore, be esteemed a pleasure as well as a duty to comply with the requirements of the act above printed, and I shall look for your active and hearty co-operation in the effort to introduce the study of industrial drawing into our public schools.

Your obedient servant,

NEIL GILMOUR,
Superintendent.

In the body of his report the superintendent recites the passage of the law and the issuing of the above circular, and says:

The act referred to is, I believe, one that is calculated to bring about good results. In the course of another year, I hope to be able to present facts and figures which will show that the legislature acted wisely when it made industrial drawing a part of the course of public instruction.

In his report for the succeeding year, dated January, 1877, the superintendent thus comments on the topic of industrial drawing:

In November last, I issued a circular calling for special reports from boards of education in cities, and also from boards of education of union schools organized under special acts, relative to the action which had been taken to carry out the provisions of chapter 322, laws of 1875, being "An act relating to free instruction in drawing." These reports generally show satisfactory results. Nearly all which have been received indicate that efforts have been made to comply with the law.

In most of these schools drawing has been taught by the regular teachers, but in several schools special teachers have been employed to impart instruction in this branch of education. In some of the cities, and also in several of the union schools referred to, drawing has formed a part of the course of instruction for many years.

Some of the boards of education bear testimony to the value of the study of drawing in the schools under their charge.

The reports of the local boards of the normal schools on this subject are printed in their special reports in the appendix.

The study has also been introduced into other schools not required by the law to make it a part of the regular course of instruction.

While the reports generally show a desire to comply with the provisions of the law, and also indicate satisfactory results, still a great impetus would be given to the study of this subject if special teachers could be detailed to visit the schools where drawing is required to be taught, and give instruction to the regular teachers, organize classes, and report to this department, to which suggestion I ask the favorable consideration of the legislature.

The report of January, 1878, shows the continued progress of the new study:

I have lately called on the school authorities of cities and of those districts in which it is required that instruction in industrial or freehand drawing be given under the provisions of "An act relating to free instruction in drawing," chapter 322, laws of 1875, for information relative to what had been done in reference thereto during the preceding school year. These reports generally indicate satisfactory results.

In some of these schools the study of drawing had been introduced prior to the passage of the act referred to. Generally the law has been complied with by those subject thereto. In some schools special teachers are employed to instruct the pupils in this study, but in many cases the regular teachers give the requisite instruction therein; in several of the schools the intent is eventually to employ special teachers. It is the desire of many of the school authorities to give special attention to the subject, and they intend hereafter to have it more thoroughly taught than heretofore.

In other schools which are not included within the provisions of the act the subject has been voluntarily introduced. The reports from the normal schools in this matter will be found in the special reports thereof, in the appendix. As the advantage of a thorough knowledge of drawing cannot be overestimated, I suggest for the consideration of the legislature that provision be made for the employment of one or two special teachers for the purpose of giving exclusive attention to this branch of education, and visiting those schools in which drawing is required by law to be taught.

NEW YORK CITY, N. Y.

The following statement of and comments upon the year's results of the study of drawing in the public schools of New York City during 1880 appear in the Twenty-ninth Annual Report of the Board of Education for the City of New York:

Of the 2,415 classes examined in drawing, the number reported excellent in instruction was 1,673; good, 689; fair, 52; indifferent, 1; showing an average proficiency of nearly 92 per cent.

I submit the following from the report of the assistant superintendents:

"In drawing, much creditable work has been done, particularly in the elements, in designing and decorating, and in model or object drawing or free-hand perspective. In the higher department of mechanical or instrumental perspective, however, the results in many cases have not as yet been quite as definite and commendable as they might be. Still, as a rule the schools generally have made and they are making very satisfactory progress in this branch, particularly in such departments of the subject as have a direct and important bearing upon industrial pursuits."

The examination of the several classes and exhibition of drawings held at the hall of the board of education in June, 1880, clearly show that the proficiency in this subject is not limited to schools nor to particular localities, but is very wide spread. Where one teacher attributes the deficiency of a class to want of favorable home influences or to lack of talent in the pupils, another teacher, having apparently the same kind of class, will produce a degree of excellence that proves the capability of both teacher and scholars. In drawing, as in penmanship, the teacher too frequently assumes that the result of the first lesson should be perfect or nearly so, and concludes that if a certain degree of excellence be not soon apparent the pupils cannot be taught. In consequence of this so much time is spent on one figure, drawing and redrawing it, that the number of forms taught during a term is incommensurate with the time allotted to the subject. To keep back a class for the least talented and the slowest is productive of bad results.

If a class be allowed to advance at an average rate, the teacher's attention will naturally be directed to those who are weakest, and the labor of teaching being applied where it is most needed, the best effects will be produced. What should be aimed at is a steady improvement in quantity and quality. If this be produced, surely the teacher must be regarded as doing excellent work. If this thought be continually present to the mind of the teacher, there will be no hesitancy in presenting for inspection the entire work of the class.

The following on the year's work in drawing in the public schools of the city of New York is from Superintendent Jasper's annual report for the year ending December 31, 1881:

Highly creditable reports have been made of the work done in drawing. Of 2,690 classes, 2,066 were excellent; 586 good; 30 fair; 6 indifferent; bad, 2. The average proficiency in this branch is 90 per cent. It should be remembered that the course includes not only practice in reproducing certain forms, but also instruction in the principles of form, design, decoration, object drawing, and perspective. To accomplish this careful study is required on the part of the principals and class teachers.

DRAWING IN OHIO.

Among the abstracts from the publications of educational officials of several of the States, in regard to the study of drawing, which will be found in a succeeding chapter, are extracts from a special paper contributed to the Twenty-seventh Annual Report of the Commissioner of Common Schools for the State of Ohio for the year 1880, in which the advisability of the introduction of drawing, as a required study in all the common schools of the State, is advocated at length.

From this it appears that as recently as 1880, drawing was not a required study throughout the State; though in Ohio, as in most of the Northern States, some cities and towns initiated the experiment without waiting for State action.

The following brief account of the experience of the cities of Cincinnati, Cleveland, and Columbus in this movement, are mostly taken from their educational reports. While doubtless other Ohio towns and cities similarly illustrated the self-help characteristic of Americans, the recorded experience of these three cites may be held to sufficiently illustrate methods and results.

CINCINNATI, OHIO.

The following account of the introduction and development of the study of drawing in the public schools of Cincinnati, Ohio, is from the annual report for the school year ending August 31, 1880, made by John B. Peaslee, the city superintendent of schools:

Eleven years ago drawing as a regular branch of study was introduced into all the grades of our schools. At that time many even of our best teachers feared that the board made a mistake in introducing it into the first year's course. They felt that little children of six and seven years of age were unable to accomplish anything worthy of the attempt. The result of the experiment, for such it then was in this country, has shown conclusively, I think, the wisdom of the board in putting drawing into the lowest grade.

Forbriger's Drawing Tablets, now in use in the schools, were revised during the year by the superintendent of drawing, Mr. Fick.

Mr. Fick has not only greatly improved the grading of the tablets, but has introduced geometrical drawing into the eighth year of the course.

The attention of the board is called to Mr. Fick's report:

"School drawing should not be merely a drill of the hand and the eye, tending to the acquisition of a proficiency in delineation, but a factor in the proper and rational development of the observing and reasoning faculties.

"The year which has just elapsed has given evidence of a steadily increasing interest on the part of the general public in matters connected with the department. Springing from a very tender root, the drawing in our public schools, repeatedly shaken with a rude hand, thanks to careful attention has grown until it now seems firmly engrafted upon our school system and gives promise of ample fruitage.

"To consider the finished drawing as the sole object of the study would be confounding the means with the end, and ignoring, over the results, the agency through which such results may be obtained. No doubt the mastering of the rudiments of drawing is very dry and uninteresting work, but it is, nevertheless, like the corresponding elementary work in all other branches, absolutely necessary, and the greatest and most fatal mistake is committed if the beginning is slighted.

"During the past year it has been my aim to extend as much as possible the use of paper for drawing, even in the lowest grade. There may be a few reasons against but there certainly are very many and important ones for its use. To produce lines upon the hard surface of the slate requires the severe pressure given by a firm grip of the slate pencil. Such a strain is apt to cramp the hands of young children, and is, moreover, unfavorable to the execution of delicate and uniform lines. Furthermore, the use of paper for primary drawing tends to impress upon the child the importance of extreme care and neatness. In slate drawing the moistened finger follows only too often in the wake of badly drawn lines, and what can be the result but slovenliness, inaccuracy, and unsatisfactory work in general? For the upper grades the practice of long flowing lines had been neglected. Exercises supplementary to the regular lessons have been interspersed throughout the course in order to overcome this difficulty.

"In the intermediate schools special attention has been paid to lessons in designing, and a marked improvement is noticeable over previous years. Hand in hand with the progress of manual skill and the education of the eye should go exercises of the imagination—the making of designs. Taking suitable simple forms, the pupils have been taught to generalize, to strip off all details and minor irregularities, and then to apply the conventional form in ornamentation. The same elements may be arranged in an endless variety of different designs, as a given number of words may be transposed to form many sentences.

"Pupils of the intermediate schools have handed in designs that would have done credit to professional designers. Speaking of the high schools, I am still compelled to complain of the utter absence of any conveniences for the proper pursuit of drawing. Compelled to pass from room to room, and thus debarred from using the large drawing models, with sections from different grades in the same class for simultaneous instruction, and finally limited to forty-five minutes per week, but little can be done. To the credit of the pupils be it said, however, that they have labored faithfully under these adverse circumstances.

"Want of time has heretofore put the introduction of geometric drawing out of the question. The importance of the subject (for if drawing be the language of form, then geometrical drawing may be called the grammar of that language) led me to organize a voluntary class at the high schools for instruction after school hours. For the coming school year the revised edition of the drawing tablets provides for the treatment not only of geometrical drawing and the elements of perspective, but also for examples of the principal styles of historical ornament. Moreover, space is allotted to the very important features of drawing from memory and dictation drawing.

"Excellent work has been done by the pupils of the normal school. It is to be deplored that many pupils drop the subject in the high schools, and being compelled on entering the normal school to take up drawing again, find themselves entirely out of practice and far behind. The greatest stress in the exercises at the normal school has been directed to correct and rapid blackboard sketching, the representations of forms relating to every day class lessons, and to analysis of forms.

"I trust that the time will arrive when teachers coming from the normal school will, with readiness and ease, illustrate their lessons in reading, geography, history, and physics, appealing to the understanding of the pupils not merely through the ear, but by the presentation of visible peculiarities at the same time acting upon the eye.

"In closing I desire to thank principals, teachers and pupils for their continued and earnest efforts, acknowledging also the faithful and persistent aid of my assistants."

ADDENDA.

The amended rules adopted by the board of education in April, 1881, place the direction of the special studies of drawing, music, and penmanship in charge of a standing committee of five members.

By regulations of the schools adopted August 9, 1880, drawing is placed in charge of one superintendent, at a salary of $1,900 per annum, one first assistant, at salary of $1,200 per annum, and three assistants, with salaries of $700 each, to be increased $50 per annum to $800. In music there is one superintendent, with salary of $1,900, and six assistants, with salaries of $1,600 each. In penmanship there is one superintendent, with salary of $1,900, and two assistants, with salaries of $1,200 each. Of these special studies the president of the board reports:

> The departments of drawing, penmanship, and music stand preëminently high in our schools. This is due to the excellent supervision in these branches.

The following report made to City Superintendent Peaslee by Professor Henry H. Fick, the superintendent of drawing, which is included in the Fifty-fourth Annual Report of the Board of Education for the year ending August 31, 1883, shows the condition of this study in the public schools of Cincinnati at the date of the latest published report.

Professor Fick says:

> Regarding the results secured by the teaching of drawing in our schools, suffice it to say that they have been before the forum of public opinion at the annual industrial expositions, and have stood well the test of criticism. I believe that, in the face of many adverse circumstances, drawing in our schools has done remarkably well. That the power of graphic delineation is of the utmost value in this day of steam and electricity, few men will deny. The demands of life do not any longer refer to the advisability and expediency of having drawing taught, but rather to the absolute necessity. Especially has this been recognized in industrial and manufacturing communities.
>
> Those who still care to draw a dividing line between essential and non-essential branches, and range drawing with the latter, should heed the words of a prominent educator who stated: "There are now four fundamental studies required to fit children for practical life, namely: (1) Reading, because it is the means of acquiring knowledge; (2) writing, because it is the means of expressing knowledge; (3) arithmetic, because it is the means of computing knowledge and values; (4) drawing, because it is the language of form in every branch of industry, from the most simple to the most complex."
>
> One of the most successful and noted of modern engineers, James Nasmyth, the inventor of the steam hammer, pleads earnestly for the development of skill in delineation, and advocates the frequent taking of graphic memoranda. He writes in his autobiography: "This [drawing] is one of the most valuable gifts which a man who has to do with practical subjects can possess. A few strokes of the pencil can convey ideas which quires of writing would fail to impart." Drawing has frequently been called the sixth sense of the workman. Without it he works automatically, with it intelligently.
>
> It is deplorable that, nothwithstanding its almost universal application, drawing should still be classed by school authorities as a *special* study. Drawing possesses the same elements of general usefulness which characterize the three R's. A mistaken notion in reference to the scope of public school work frequently is the cause of unjust attacks. Casual observers demand technical or artistic work of a high order as the

outcome of elementary drawing instruction, and are prone to render an adverse verdict when they are shown mere introductory or rudimentary work. No one expects "lightning calculators" as the result of instruction in primary arithmetic, or believes that the elementary language lessons will give us juvenile authors and poets. None of the public school studies can do more than lay a foundation upon which later years may erect a noble edifice.

Fully as ridiculous as the above mentioned charge is the complaint which credits the drawing lessons with being the cause of weak eyes, nervousness, headaches, and innumerable other bodily ills. Will any one conscientiously say that from forty to ninety minutes per week spent in drawing may be followed by such dire consequences? If so, what may be the result of the remaining twenty-two or twenty-three hours' instruction per week, of which certainly one-half necessitates steady employment of head and eyes? Pupils excused from drawing upon the plea of near-sightedness or nervousness invariably devote the minutes thus gained to ciphering or reading.

A very noticeable increase of students in drawing can be reported from the high schools when the study is optional. Were it not for the scanty allowance of time and the meagre facilities offered for individual work, the fruition in the highest grades would convince every sceptic that in drawing the seed is well and carefully sown.

In conclusion, I desire to thank my associate teachers for the zeal which has marked their efforts, and also all the principals and teachers for the unvarying diligence and hearty coöperation they have displayed in the past, thereby rendering success possible. To you, also, I extend my thanks for the interest you have taken in the work and the workers.

As the judgment of impartial observers, that part of the report of the French commission* relating to drawing in the public schools of Cincinnati is of interest:

Drawing, very much in honor in the schools, is taught according to the Forbriger method, and the arrangement of studies in it shows really remarkable results. One of the most obvious, though not the best, of these results is very manifest in the lower grades, where the exercises in drawing are a great aid to the pupils in penmanship, the correction and quality of which are regarded as important and indispensable considerations. In all the grades blackboards are seen covered with pretty designs made by the lady teachers for the needs of their teaching, and copied with very great skill and ease by the pupils, who take great delight in this exercise, which is not at all compulsory. The fact that drawing is made a common study creates everywhere sources of production.

PUBLIC NIGHT SCHOOLS OF CINCINNATI.

The city carries on night schools: ten district night schools, with an enrolment of 2,248 male and 388 female pupils, and one night high school, with 641 male and 80 female pupils enrolled. Seventy-two teachers are employed in all the night schools, of whom 45 male and 12 female teachers are in the district schools and 10 male and 5 female teachers are in the night high school.

Requisites for admission to the night high school are the same as for admission to intermediate day schools. Studies taught in the night high school are arithmetic, grammar, penmanship, drawing, physics, elocution, algebra, geometry, bookkeeping, phonography, and German.

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* The Government of France appointed Mlle. Marie Loizillon, inspectrice générale des écoles maternelles, and Mlle. Conturier, of Havre, a commission to examine the various questions connected with teaching in the United States. They visited this country during the autumn of 1882. The official report to the minister of public instruction of France was written by Mlle. Loizillon.

It thus appears that in this city the public school authorities commendably endeavor to provide for the education of those unable to attend day schools. In most other cities all provision for such education is unaccountably neglected by the authorities.

In a country whose form of government rests on the assumption that every voter has been taught, at least, so much as to be able to read the laws, it is anomalous that the school training of large numbers should be wholly left to the care of private benevolence.

In many cases, as in the night classes of such typical institutions as are Cooper Union, the Franklin Institute, and the Maryland Institute, individual benevolence and private enterprise have nobly endeavored to supply this omission by the public authorities; but, at this late day, there should be no occasion in these United States to demonstrate that private effort is, of necessity, inadequate to public needs; and that therefore it should be only left to individuals to provide higher and special technical training for such as could not otherwise obtain it; not to furnish that free public elementary instruction which the State is logically bound to provide for all the children of the State.

The list of studies in this public night high school is given for comparison with the courses in the privately endowed schools just mentioned. Of the study of drawing, Superintendent Peaslee reports:

> The classes in drawing of the night high school, in charge of Messrs. Fick and Hauser, were attended even better than usual. It is a noteworthy fact that all the students of these classes devote themselves to their work with that diligence and endeavor which shows that they fully understand and correctly estimate the value of skill in drawing.
>
> In this country, where industry stands at the fountainhead of almost all prosperity, graphic representation has risen in popular estimation to an astonishing degree. Acting upon a knowledge of what is most needed by the workman, there has been less of the fine artistic drawing executed than in former years, but more of what is considered practical work has been done. Much more might be accomplished in this direction if the school was properly supplied with models and appliances.

Committee in charge of special studies for the years 1883–'84: Messrs. A. S. Babbitt, John F. McCarthy, George Kreh, Frank Rattermann, Thomas Knight.

Teachers of drawing: Henry H. Fick, superintendent; Christina I. Sullivan, first assistant; Augusta Tozzer, Matilda Toepfirt, John Hauser, jr.

CLEVELAND, OHIO.

The following brief statement of the condition of the study of drawing in the public schools of Cleveland, Ohio, is from the report of Dr. D. B. Smith, the president of the board of education, for the school year ending August 31, 1880.*

Curiously, there is no mention of drawing in Superintendent Rickoff's report, nor elsewhere in the volume except in the weekly time table of studies, in which the time given to drawing in the several years varies from one hour and a quarter to two hours each week; the list of salaries paid teachers, which includes one drawing teacher, with an annual salary of $1,850; and in the list of text books, as follows: "Drawing.—No text books in use; all drawnig done from objects directly."

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* Forty-fourth Annual Report of the Board of Education, pp. 240.

Drawing has been introduced and successfully taught in all the departments of the schools and to all the pupils from the year 1872 to the present time. Mr. Frank Aborn was engaged in that year to take direction of the work and to give the needed instruction to the teachers. Being a graduate of the Technical School at Worcester, Mass., he gave the subject a practical turn from the beginning, and though many obstacles have had to be met, his success has been gratifying.

In the report of the Centennial Exhibition, Mr. Aborn's system received special mention, and a diploma and medal were awarded to the city for its excellence. That it should have secured such honorable distinction is a little remarkable if we consider that at that time we had hardly a single teacher who had ever before been called upon to teach drawing, and that the method itself had not yet been developed and applied in the higher grades.

COLUMBUS, OHIO.

The following historical summary, kindly furnished at the time by Professor Goodnough, city superintendent of drawing, comprises the period from the first systematic introduction of the study of drawing in the public schools of the city to the close of the year 1879:

HISTORY OF THE PROGRESS OF DRAWING IN THE PUBLIC SCHOOLS OF COLUMBUS, OHIO.

Previous to the fall of 1873 little or nothing was done in drawing in the Columbus public schools, the superintendent of schools, R. W. Stevenson, reporting that the results were "good, bad, and indifferent, in accordance with the interest in the subject by the teachers." About November, 1873, Walter Smith's system of industrial drawing was adopted, and, unable to procure a competent person to take charge of the matter at once, arrangements were made with Prof. William Briggs, of Boston, to spend a month in Columbus to give the teachers elementary instruction and inaugurate the movement.

Feeling that success depended on the permanent engagement of some person fully competent to manage the department of Drawing, correspondence was held with Prof. Walter Smith, State director of art education in Massachusetts, who recommended Mr. Walter S. Goodnough, then professor of drawing in the State normal school at Salem, Mass., and who had achieved considerable success in that position. He was a graduate of the Bridgewater, Mass., normal school, and was a member of the first class in the Massachussetts Normal Art School, in Boston.

Professor Goodnough was elected superintendent of drawing of the Columbus schools in August, 1874, commenced his labors in September, and has held the position from that date.

The plan adopted was the same that was in progress in other cities where the best work is done. The regular teachers in the primary and grammar grades were expected to teach the subject in their schools, under the supervision and instruction of the superintendent of drawing. Accordingly they were at once organized in classes of about thirty each, which met for instruction on Saturdays, each class coming once a fortnight for about seven months in the year. The instruction has continued since then, the meetings being held monthly since the second year.

Instruction was given at first in what they would have to present directly to their classes, and gradually embraced all the subjects they would be required to teach, as free-hand drawing from copy, enlarging and reducing, dictation, memory; and blackboard drawing, design, geometrical, model, perspective, and the elements of projection drawing.

The teachers were informed that as soon as they were prepared to pass an examination in any of the subjects they would be excused from attendance while that subject was being taught, and that they would be expected to pass an examination in all the subjects before being finally excused from the meetings.

The city board of examiners also required that drawing be one of the subjects of examination for a certificate to teach in the Columbus schools.

As a result of these measures the teachers went to work in earnest, and much was accomplished even in one year. Riper fruits are now gathered.

All pupils in the public schools were required by the board of education to study drawing unless they presented a certificate from a physician stating that their eye-sight or physical condition was such as to make such study injurious to them.

About November 18, 1874, a free evening drawing school for mechanics, artisans, and others was organized and held in a room in the high school. Flat copies, geometric models, vases, &c., were purchased. The school met three evenings a week through the five winter months. There were seventy-five pupils enrolled, with an *average* attendance of about forty. Twenty-seven occupations were pursued by these pupils in their daily avocations.

The course of study included free-hand outline from copy, models, and casts; light and shade drawing from models and casts; design, geometrical, perspective, and projection drawing, and the elements of architectural and machine drawing.

At the close of the school year a public exhibition of drawings from the public schools, including the evening class, was held at city hall. Each school was required to send about 20 per cent. of their books, and over 1,000 pupils were represented. The results were most encouraging for a year's work and were inspected by about by about 3,000 visitors.

In September, 1875, Mrs. W. S. Goodnough was appointed assistant teacher of drawing in the high school, as the classes were so numerous as to leave little time for the superintendent of drawing to teach them and properly superintend the lower grades.

This year a small collection of plaster casts was purchased for the use of advanced high school pupils and for the evening students. In the spring of 1876 work was prepared from every school for the Centennial Exhibition. The work was prepared strictly in accordance with the rules prepared by the committee of the National Teacher's Association for this purpose. There were seven volumes of drawings, representing all grades, and one volume, prepared by Professor Goodnough, illustrating the course of study from the lowest primary through the high school. The exhibition was highly spoken of by competent judges.

During the year a Saturday normal school was organized for high school students and others who desired to prepare themselves for teachers' positions in the Columbus schools. Drawing was made one of the subjects of study. During this year rapid progress was made in all grades, but the want of a suitable room for study in the high school was keenly felt, as models had to be carried about from room to room.

At the commencement of the following school year, September, 1876, Mrs. Goodnough resigned, on account of poor health. Mrs. N. Neale Stewart, of Boston, a graduate of the first and second years' course of the Massachuestts Normal Art School, was elected to fill the vacancy. During 1876-'77 rapid advancement was made, and an exhibition was held at the end of the year, which was largely attended.

The board of education having ordered an addition to be made to the high school building, a room was selected to be arranged as a drawing room. It was ready for use October, 1878.

The room was furnished with a narrow table arranged in the form of a hollow square, for model-drawing; desks with copy holders and places for drawing boards, for ordinary work; and a narrow table near to and around two sides of the room, for model and cast drawing. There is a shelf about 18 inches from the floor along these two sides of the room, for models, and the walls are sheathed up to a height of 7 feet, that plaster casts may be hung on them. There are two curtains at each window, for the proper arrangement of light, one going up from the bottom and the other coming down from the top. The room is supplied with drawing boards, T-squares, set squares, drawing-board racks, cases for books, copies, and drawing material, and a sliding blackboard. The latter consists of two large boards hung with weights and pulleys as window sash are hung; thus the board may be raised or lowered for the convenience of the teacher, or work may be preserved by pushing the board up out of the way. Some new copies were purchased about this time, and, owing to the improved facilities, much better work was done.

The evening drawing school was not opened that winter, as there was no gas in the drawing room, and the board of education made no provision for any evening schools. In the grammar schools much advancement was made, particularly in the study of object or model drawing, this study being put into the lowest grammar grade and continuing through the upper ones, together with the other subjects of drawing. Projection drawing was also more fully attended to this year in the high and grammar schools. Pupils were taught to work to scale and make plans and elevations of the simple geometrical solids in simple positions. The following objects were drawn singly: Cube, rectangular prism, cylinder cone, square pyramid, triangular prism, etc. Next simple groups of these objects are drawn, as a cone upon a cube or a square pyramid upon a square plinth, etc.

It was believed that pupils in the grammar grades should learn how to draw to scale, in plan and elevation, any simple object, making the drawing complete enough to enable a workman to construct the object from the drawing. No exhibition was held at the end of this the fourth year of work.

During the fifth year, or 1878–'79, much progress was made in all grades, and pupils in the higher grades and teachers were stimulated by the organization of the Columbus Art Association in October and the opening of the Columbus Art School in January. They began to think that the study they had been plodding through for the last four years was of some importance after all if so many people were thinking of it. Quite a number of the pupils in the high school, anxious to progress faster than their two lessons a week at school would allow them to, entered the art school for study out of school hours. Many of the teachers also availed themselves of the opportunity.

An evening class being organized at the art school at very low rates—about ten cents an evening—the free evening drawing school previously carried on by the board of education was abandoned. At the end of the year, Miss Stewart, after three years of faithful and efficient service, was obliged to resign and return East, owing to the death of a relative. In August, 1879, Miss Ella Fraser was elected as her successor. Miss Fraser had been a successful teacher in the Columbus schools for about eight years, and from the time drawing was introduced in the schools took every opportunity to improve herself and prepare for a special teacher in that department. Her marked success since her appointment has been gratifying.

The study of drawing is now fairly engrafted in the public schools of Columbus, and excellent results are being obtained in all departments.

In the primary schools the pupils study flat copy drawing from blackboard, cards, and books. They are exercised in enlarging and reducing; memory, dictation, and design are also studied; and the names of the simple geometrical forms are learned.

In the grammar schools pupils continue these subjects in more advanced stages, with the addition of geometrical and projection drawing with instruments, and model drawing. They also learn somothing of the various styles of historical ornament.

In projection drawing this year, which is studied in the two higher grades, detail drawings have been made to scale for the construction of a table drawer, table, desk, bench, etc. These were either made by measurement of the object itself or designed. In model drawing the pupils are encouraged to draw objects at home and bring them to school for the teacher's criticism. Among the objects which have thus been well drawn are plants, vases, fruit, chairs, tables, lamps, a kitchen range, with cooking utensils, a table set for tea, a baby's carriage, a scroll saw, a dressing case and toilet articles, etc.

In design, pupils use foliage to fill geometric space, and design for tile floors, oil cloths, or other surface decoration, china ware, book covers, ceiling decoration, iron work, etc.

In the high school pupils draw from large copies, in outline and light and shade; from models and casts, in outline and light and shade; they also study design, projection, perspective, architectural and machine drawing.

The time given to the study of drawing varies in the different grades, and is not quite what is desired in the higher grammar schools. It is as follows in the various grades: First year, daily lessons of twenty minutes; second year, daily lessons of twenty minutes; third year, daily lessons of twenty minutes; fourth year, daily lessons of twenty-five minutes; fifth year, daily lessons of twenty-five minutes; sixth year, three lessons a week of twenty minutes each; seventh year, two lessons a week of thirty-five minutes each; eighth year, three lessons a week of twenty-five minutes each; high school, two lessons a week of forty minutes each.

In addition to his work in the Columbus public schools, Professor Goodnough has, since 1877, held an annual summer normal art school during the month of July, that teachers through the State and in adjacent States could have an opportunity to prepare themselves to teach or superintend the subject of drawing in public schools. Special classes in water color, oil painting, wood carving, and modelling in clay are also provided for. Teachers from eight States have attended these summer sessions — New York, Pennsylvania, Ohio, Virginia, Indiana, Illinois, Michigan, Minnesota. The course is specially arranged to prepare teachers of drawing and embraces all the subjects that are taught in the public schools.

ADDENDA.

The following account, continuing the history to the summer of 1883, is abstracted from the annual reports made by the city superintendent of schools, and by the superintendent of drawing, to the board of education, which are included in the published reports of the board.

The report of the board for 1873-'74 contained "a synopsis of a twelve years' course of drawing in the public schools," as arranged by Professor Goodnough, the superintendent of drawing. The report for 1874-'75 contained, in addition, a synopsis of the elementary and advanced courses taught in "The Free Evening Art School." These courses followed substantially those arranged for the Massachusetts schools by Prof. Walter Smith.

In the annual report for the year ending August 1, 1881, Superintendent Goodnough notes continued improvement in drawing.

The following paragraphs, showing the dependence of a school on the teacher, the fact that the best teachers of other studies are also best in drawing, and, further, how with each ensuing year after the first introduction of this study in the public schools the teaching steadily improves as the new teachers come to it with the advantage of their previous train ing in the study as pupils, are quoted as of interest wherever the propriety of the introduction of this study in the schools is under discussion:

EXTRACTS FROM REPORT OF SUPERINTENDENT OF DRAWING.

To R. W. STEVENSON,
Superintendent of Public Instruction:

I take pleasure in reporting considerable advance during the last year in the study of drawing. Better results have been obtained than ever before, and I venture to say more hard work has been done by teachers to accomplish it. We have arrived at an important stage in our work, at a point where all the schools are doing fair, perhaps more than fair, work, and several in each grade are doing excellent work. * * *

In the schools where excellent work is done it is not by a few talented pupils, but by the school as a whole, and often by one which has done fair or even poor work the preceding year, and may the next if it does not fall into good hands. This shows that our course in drawing is carefully and logically arranged, and that the best results in any whole class depend more on the excellence of the teaching than on the genius or talent of individual pupils.

It is also a fact worth knowing that the teachers who obtain the best results in drawing are, in nine cases out of ten, the best teachers of other subjects, and particularly is it true that they have the best controlled schools. I have yet to see good drawing in a school poorly or loosely disciplined. Given a good, strong, hard working teacher and a well disciplined school, and the average number of pupils doing good work will be as great, and often greater, than in any other study taken. Of course this supposes the necessary preparation which such a teacher is always sure to make.

This leads to the point that our new teachers, at least those who have graduated from our schools, are better prepared each year. During this next year particularly there will be a great advance. Those now in the normal school, who will be applicants next year, have studied drawing eight years, and the advancement in the high school last year was such that they are more than a year ahead of the preceding class.

The superintendent urges the importance of giving more time to this study in the normal school, because the success of the study in the schools is materially dependent upon the ability of the teachers to give the needed instruction, and after the study has been introduced for a few years, so that pupils have been drilled for six or eight years in a progressive series, it is clear that the teachers who are to instruct them in the higher branches of the study have need of much more thorough preparation than was needed in the elementary stages.

The following paragraphs of this report show the bearing of the higher branches of the study upon general education, and also how the practical application of the knowledge of drawing to the mechanic arts is made in the later years of the course:

Considerable attention was given during the year to the study of historical ornament. Commencing with the lowest grammar grade, five pages in each book are devoted to historical forms, with which the pupils are made familiar. In the D grammar ancient Egyptian forms are presented; in the C grammar, ancient Greek and Roman; in the B grammar, Byzantine and Gothic; and in the A grammar, Saracenic or Arabian.

While these historical forms are being drawn in the books, the teachers give talks to their classes, telling them where and how they were used by these people, the characteristics of the style, when it prevailed, and other matters of interest to the pupils. Often compositions are written on these matters, and at the public examination in March the blackboards are covered with drawings which are largely historical.

Many interesting exercises were conducted at the last public examination on this subject, and thus our pupils are led to think in a direction in which no other grammar school study would have taken them and to get a little insight into ancient and mediæval history.

Before leaving the grammar schools pupils get a considerable knowledge of drawing. They know all of the geometrical terms; can draw readily quite difficult examples from copy; can draw almost any design or form the teacher is able to dictate, that is, drawing from verbal description alone and without copy; they get a pretty good idea of the principles of decorative design, of conventionalism in design, and can originate clever productions; they have learned the leading principles of perspective and can draw geometrical solids, vases, and common things from the object, either singly or in simple groups; they have learned the principal characteristics of the leading ancient and mediæval styles of ornament, and on seeing a form can recognize it as belonging to this or that style; they also learn the use of instruments, rule, scale, and compass, and have drawn mechanically about fifty of the principal problems in constructive geometry, such as the mechanic makes almost daily use of in one form or another, and which are necessary for the study of higher mechanical drawing.

In the high school, in the two lower classes, there is a résumé and more complete study of historical ornament. Design and model drawing are studied more thoroughly, and projection drawing, or drawing to scale in plan and elevation, and mechanical perspective are taken.

In the higher classes working scale drawings are made of furniture, &c.; designs are made for particular things and finished in pencil, ink, or color; pupils draw difficult groups of models and from the plaster cast of ornament, and parts of the figure in outline, or shaded with stump, crayon point, or color; some individual pupils make water-color paintings from copy, or draw architectural or machine details.

A special elective class in architectural drawing has been recently organized, the course for which will be found in the high school course of study. Pupils in this class, it will be seen, will be prepared to step into almost any architect's office and be of value at once, or they can make practical use of their knowledge in many another vocation. A special class in machine drawing is contemplated.

In conclusion, I will state that we have in each grade an average time of less than an hour and a half each week.

Respectfully,

W. S. GOODNOUGH,
Superintendent of Drawing.

In his report for the year ending August 31, 1882, Superintendent Stevenson thus introduces the report on drawing:

Below will be found the report of Mr. W. S. Goodnough, the superintendent of drawing. This subject has been well taught, and the results which have been gained are in some respects remarkable. It has been fully demonstrated that as large a per cent. of the pupils in the schools become proficient in this branch as in arithmetic or grammar. The ability to draw is as universal as it is for any other subject. This is contrary to the common opinion, that only those can make any considerable progress who are specially endowed.

He also records the award by the judges of the Ohio State fair of a silver medal to the Columbus public schools for general display of drawing, and a diploma to the high school for display of original designs, and money awards to fifteen different pupils of the public schools for "excellence of drawings" shown by them; also a diploma to Mr. Carl Becker, principal, and Miss Augusta Becker, teacher, of the Third Street German English School, for "best set of drawing books from one class." He states that each year fewer excuses from the study are asked for, except in cases of pupils having defective sight.

The following is the text of Mr. Goodnough's report in full, as it contains some original features:

Dear Sir: I submit the following statement of the condition of my department during the past year. The results accomplished were superior to those of previous years. Mr. J. S. Clark, of Boston, visited our schools in June, and after a careful examination stated that there was no city in the West, and but two or three in the country, that could show as good work, none better. He also spoke highly of our study of historical ornament in connection with the drawing and its illustration on the blackboards. In this subject he declared we stood alone.

At the National Teachers' Association at Saratoga, in July, there was an exhibition of drawing from about a dozen cities of the country, in which the Columbus schools were invited to participate. Among all the cities represented, Columbus had but one competitor in excellence, and that was Worcester, Mass.

Last year special attention on my part was given to the subject of historical ornament. Photographs of several hundred different pieces of ornament in the various styles were made and placed so teachers could obtain them for purposes of illustration. At the public examination in April, when it is the custom for the teachers to have the blackboards decorated by pupils, subjects were chosen from this source, as being an easy way of making the pupils familiar with the subject. At this time also many original compositions by the pupils on the styles of ornament were prepared and read.

A new plan to aid in the subject of design was devised last year, and is just being put into practice. It is as follows: A large blank book has been made for each building, its leaves being composed of leather board and so arranged that any or all may be taken out and distributed among pupils. Principles and rules of design have been printed and pasted in each book. One hundred photographs, showing more than four hundred different designs, selected from many valuable works, have also been made and pasted in each book. This has been an immense undertaking, having consumed nearly every moment of spare time outside of school hours for about four months. Over twenty-two hundred photographic prints have been made from one hundred negatives. These designs will be used by teachers to give pupils suggestions when designing, and will be added to from time to time. Also whenever any pupil makes an original design which is exceptionally good it will be photographed, with his name, age, grade, and school upon it, and enough copies made to put one in the book in each building. This will give all an opportunity to see and study the best work done, and be an incentive to all.

Another new feature of the year was the establishment of a special class in architectural drawing at the high school for pupils of the junior class who wished to take the study. The course of study for this class will be found in the course of instruction for the high school in this volume. The pupils were much interested in the work, which was made as practical as possible. The course laid out is intended for two years. One of the boys was offered a position in an architect's office during the summer vacation, where he was a valuable assistant, being better paid than apprentices in such offices often are after two or three years' work.

It is the aim in the study of drawing in our schools not only to train the eye, the hand, and the intellect, but to impart much valuable knowledge and make the study as practical as possible, leading the pupils to think frequently of industrial occupations.

Respectfully submitted.

W. S. GOODNOUGH,
Superintendent of Drawing.

R. W. Stevenson,
Superintendent of Schools.

In his report for the year ending August 31, 1883, City Superintendent Stevenson treats at length many phases of the relation of the public schools to the future citizen.

A few paragraphs showing how home industrial education benefits the child are quoted, as relating, if not directly to drawing, to the general subject of industrial training.

He has been treating of the fact that the preparation of the child for future citizenship should be kept in view during all the training of the public schools, and then has remarked upon the difference of self-control shown by children subject to different home influences. On this point he says:

> It may seem strange, but it is true, that the children most difficult to control come from well-to-do and wealthy families. I do not mean to say they are vicious, disrespectful, and impolite, but are indolent and averse to doing anything contrary to their own sweet wills. There is a good reason for this. They come to school without knowing what it is to do anything that requires any sacrifice of pleasure. At home no regular duties have ever been assigned them; servants wait upon them at their bidding; what they do, they do because they wish to, and not because it is the command of another. They have not learned the lesson of doing things which are disagreeable to them when they cannot see in it immediate pleasure to themselves. They have formed no habits of attention nor application. They have been so used to have others do for them, the teacher seems unreasonable and unjust to require them to do any work which is not perfectly agreeable.

He has spoken of this lesson of self-control and of the power of self-application as the fundamental requisites of the future scholar. Of children he says:

> When they arrive at the age of twelve years they should possess the power of application and attention, and have formed a habit of regular and systematic work, and have self-control enough to force themselves to the performance of unpleasant duties. Those parents who are wealthy and well-to-do have it in their power to give their children superior training and advantages, but if their wealth is used to give them exemption from hard and healthful work, whereby habits of application, industry, and self-sacrifice are formed, wealth is a curse rather than a blessing. It would be better for the children to be compelled to work under the lash of bitter necessity, for it would improve their prospects for honor and usefulness.
>
> Children who come to our schools from the country are generally behind the children in the city in the branches of study, but in advance in mental development, which is of much more value.
>
> In the country, especially in farm life, the children are early required to do regularly some kind of work; this cultivates a habit of attention and application, which is found to be of the greatest value to the child when put in school. The Kindergarten in our cities gives in a measure the same training in effect, and is that kind of preparation all children need, supplemented by home training in the cultivation of the will.
>
> As a rule, children of German parentage have better home training in power of attention, self-control, and application than children of American parents. They are forced to assist at an early age in the household affairs—to do something that they would not do for the mere pleasure of doing. "I don't want to do that" is an all sufficient reason for many American parents to excuse a child from a home duty. Such training between the years of three and six greatly retards his progress during the first years of his school life. Close application is not agreeable to most children. It is a very natural thing for a child not to exert either mind or body if his teacher will do the work for him; but what good does the child receive? The development of

mental power requires self-activity. There is nothing truer in education nor more worthy of being kept in mind by the teacher than this: The ability to acquire knowledge is more valuable than knowledge itself.

The work bench is a better educator than the billiard table; a hammer and nails, than a pack of cards; the corn field than the base ball grounds; the fields and woods than the crowded street.

So far as industrial education is impracticable in our system of education, it is practicable in home training. The children may at least be taught the care and use of such tools and utensils as are found in every well furnished home.

If the children who live in the cities, with the school privileges they now have, had the additional training in the industries which the country children receive, the boast that three-fourths of our great men come from the farms and workshops would be as empty as a dream. Children should be allowed time for amusements, but in cities and towns play is the rule, and work which requires attention and application is the exception.

If public schools do not produce the results they should, and in my judgment they do not, it must be remembered that they take the children as they find them, and one reason of failure lies in the want of that home training, and in the constitution of the social fabric which looks upon all work as drudgery and unworthy a well bred child.

Subsequently he treats at length the topic of "instruction," including that of industrial training. This portion of his report will be found elsewhere, under the head of "statements by educational officials." Of drawing he says:

That branch of study which will be used most in the industries of life is drawing.

The work which has been done by the pupils in all the departments of our schools has been highly commended at home and abroad. The results have been achieved by the careful and thorough instruction of the teachers by the superintendent of drawing, who has labored faithfully and earnestly for success in his department. The teachers, too, have availed themselves of the opportunities within their reach for acquiring a knowledge of art beyond that necessary for their schools. There will be derived by the pupils, from the art education they receive in the public schools, that manual skill and training of the eye which will be of no small practical value.

Mr. Goodnough's report is given in full, as his statement of methods will interest all who are practically engaged in the promotion of this study in the schools:

R. W. Stevenson,
Superintendent of Public Schools:

I submit the following report of the instruction in drawing during the past year:

There has been a gradual advance since the last annual report. At the monthly teachers' meetings especial attention was given to the subject of original design which resulted in better and more correct work by the pupils. Each teacher was expected to make a design of the same sort that she would finally expect her pupils to do. These were brought to the meetings for inspection. In the primary teachers' meetings all passed to the blackboard and reproduced their designs there, so that all had an opportunity to inspect individual designs and make sketches to show their own schools. In this subject it is quite necessary that teachers be able to show their pupils a variety of different arrangements from which to get ideas, just as in writing on a given subject one has first to gather information. The means for teaching object drawing more thoroughly were supplied by placing in each building a number of wooden vases in addition to the geometrical solids. At the teachers' meetings this year that subject will occupy nearly the entire time. The blackboard drawing last year arranged for the public examination was exceptionally good. In grammar grades this consisted almost entirely of historical forms in the different styles.

The work was so excellent that it seemed at though some means ought to be taken to preserve it. Accordingly, I spent nearly all of the spring vacation and Saturdays during April in photographing the most noteworthy. The work was so extensive that it occupied evenings and all spare daylight outside of school hours for five or six weeks. These photographs are now in frames in the board of education room, and were, with other work from our schools, exhibited the past summer at the Ohio Teachers' Association at Lake Chautauqua and at the National Teachers' Association at Saratoga, where they received marked attention.

In the high school there was a great advance over the preceding year in the character of the work. The subject of light and shade has until recently been taught almost individually, owing to the difficulty of arranging the light for large classes. Last year, however, most successful work was accomplished by means of class work. Miss Fraser executed large charts—large enough for the whole class to see—and all worked as a class from the same subject for their first few drawings, including a practice sheet. Finally, after principles were mastered, and the handling of the medium learned, each worked individually from a selected example.

There was another marked advance in the high school in the work in design. Some very fine designs were made in monochrome and also in colors. Those in monochrome were in sepia or neutral tint, and were for borders or center pieces, from the rose, thistle, or dandelion used as subjects. Those in colors were for various subjects, as pottery, book covers, fire places, ceilings, wall paper, &c. The quality of the work in the special class in architectural drawing will be understood when it is stated that every drawing made was marked, and the average of the class for the year was 90 per cent.

The schools of Columbus were again invited to exhibit the subject of drawing at the National Teachers' Association. The following schools and cities were represented at that exhibition: Public schools of Cincinnati, Saint Louis, Worcester, Mass., Boston evening drawing schools, Massachusetts Normal Art School, New York Workingmen's School, Philadelphia Industral Art Museum School, Saint Louis Manual Training School. It was acknowledged that the Columbus schools were not surpassed by those of any other city, and in many instances were not equalled.

Respectfully submitted.

W. S. GOODNOUGH,
Superintendent of Drawing.

With this latest published report of the superintendent the history of the progress of the study in the schools of Columbus closes.

The experiences as related can hardly fail of value to others undertaking a similar experiment.

DRAWING IN THE PUBLIC SCHOOLS OF WASHINGTON, D. C.

The experiment in Massachusetts had been carefully observed by the city superintendent of schools and the school trustees of Washington, so that as soon as the results in Boston indicated that the movement gave good promise of success, steps were at once taken to give to the public school children of the capital city of the nation similar opportunities.

The report of the trustees for the year 1872-'73* thus records this first step:

> Another year's work has been done. * * * The committee feel that they can conscientiously congratulate the board that the improvements have been great; that advanced steps have been taken by the establishment of a normal school and by systematizing the important studies of drawing and music.

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*Twenty-sixth Report of the Board of Trustees of the Public Schools of the City of Washington, 1872-'73.

After remarking that the topics, including drawing, "have been so exhaustively treated in the able report of the superintendent" that they need do no more than refer to them, they add:

> The subject of drawing having been carefully considered by the board, a plan was adopted by which the teachers of the schools should receive training, thereby enabling them to impart instruction to their pupils in this branch of study. This matter was placed in charge of Mrs. Susan E. Fuller, a lady of fine artistic culture, whose skill as a teacher of drawing commended her to the board. She has entered zealously upon her duties, with fair promise of abundant success.

In his report, Mr. J. Ormond Wilson, the efficient superintendent, briefly recites the fact that this study has hitherto been a failure, and recounts the steps taken for the introduction of the new method of instruction:

> Drawing has had a place on our regular list of studies since 1868, and during this period the pupils in our schools have been required to purchase drawing cards or books which have cost from $1,500 to $2,000 per annum. The results of these attempts to give instruction in drawing not having been satisfactory, at the close of the last school year a special committee of the board, consisting of Trustees Stuart, Detrick, French, and AtLee, was appointed to consider the merits of study, ascertain the causes of the comparative failure of past efforts, and to recommend such measures as would promise better success in future.
>
> The committee found that the importance of this study is recognized now more fully than ever before in all the principal cities and large towns of the country, and that its practical value in our own city is greater than in most others, for here the various Government Departments and Bureaus, as well as city industries, constantly demand the services of a very large number of persons trained and skilled in this art. It was evident, too, that the want of success heretofore must be attributed to the failure to furnish teachers qualified to instruct in this branch, rather than to a lack of ability to learn on the part of the pupils.
>
> In considering what measures should be adopted by the board to have drawing properly taught in the schools, the committee consulted the best authority on the subject known to them—Art Education, by Walter Smith.

Mr. Wilson here quotes at some length Mr. Smith's demonstration that the only possible success of this study in the public schools lies in the ability of the regular teachers to teach it. He then says:

> The first step to be taken was to secure the services of a person competent to instruct the teachers, and such a one was readily found in our own city—Mrs. Susan E. Fuller, a lady who was educated in the New York School of Design for Women, and who has been favorably known in this community during the past four years as teacher of a private art school. Mrs. Fuller was appointed teacher of drawing in the public schools, and upon her suggestion the following scheme for the study during the current year was adopted.

This scheme included a lesson to the school teachers on Saturday, instruction for two hours each week to the normal school pupils, and similar instruction to a special class of advanced boys, five among those showing most aptitude for the study being selected from each public school; also general supervision of the work both of the teachers and of the pupils in all the schools.

Evidently the work laid out by the new superintendent of drawing was fully sufficient for one person.

In this programme all the essentials requisite to the successful introduction in the public schools of a new study were thoughtfully provided.

Mr. Wilson comments as follows:

> It will be seen that the following are the prominent points in the plan adopted:
>
> First. All the regular teachers are to qualify themselves to teach elementary drawing.
>
> Second. All the young ladies in the normal school, from which most of our teachers to be appointed in future will be taken, are to receive a thorough course of instruction from the special teacher of drawing.
>
> Third. A class of advanced boys, who, during the time they have received elementary instruction from their regular teachers, have given evidence of marked ability to pursue the art with success, are to receive an advanced course of one or two years' instruction from the special teacher of drawing.
>
> The entire scheme is now being carried out in a most satisfactory manner; and for this much credit is due to Mr. Fred. D. Stuart, the very competent and energetic chairman of the committee.

That the study was undertaken in earnest, at least in the normal school, is shown by a single passage in the next annual report of the principal, Miss Lucilla E. Smith:

> Not a member of this class had any previous knowledge of drawing so that, aside from the time given to map drawing, it was found necessary to devote 12 per cent. of the entire year to this important subject.

Superintendent Wilson, in his annual report for 1873-'74, after commenting upon the importance of the study in its relation to industries, thus speaks of the practicability of its introduction into the course of study:

> If drawing is commenced under a proper system of instruction in the primary schools, it can be carried on without displacing any of the other studies or adding to the burdens of the course. It furnishes an exercise always welcome to the pupils, it at once becomes a valuable auxiliary to penmanship, and the discipline which it affords gives strength and facility for the acquisition of other branches.

The success of this experiment was so marked after but a single year, and the results of the care given at first to thoroughly establish the new study have been so definite, the progress each subsequent year, as shown in the annual exhibitions of the drawings of the pupils, has been so visible, as to give additional importance to the recital of the first steps by which so great an improvement was inaugurated and such results have been obtained.

This becomes of the more value as an example to other communities, who might otherwise be inclined to refer the success of the introduction of drawing in the Boston schools to the exceptional advantage given by the personal supervision of Professor Smith and to the employment of the trained graduates of the normal art school as teachers.

Here, in the Washington schools, has been shown what may be accomplished in any community, fortunate enough to secure the services of a single supervising teacher of drawing competent to instruct the public school teachers, and heartily supported by the school authorities.

The latter condition is essential; unless the teachers understand that ability to teach elementary drawing in their schools is absolutely essential to their retention as teachers, there will be little utility in attempting to introduce this new study in public schools.

As a practical statement of methods which have been crowned with complete success, Mrs. Fuller's first annual report, showing the manner in which she put her plan in operation, is here given:

SIR: On assuming my duties as superintendent of drawing in the public schools of Washington, I presented a scheme of instruction for the then ensuing school year. I have now the honor of submitting the following statement of the manner in which the plan has been carried out, and its results:

The teachers were requested to meet at the Miller building, September 6, for the purpose of forming classes to receive instruction in drawing. They did so meet, the majority seeming not only willing but anxious to give the required time and attention, evidently feeling that as the prescribed course of study required them to teach drawing in their respective schools, it was desirable that they should obtain in this, as in other branches taught, all the information necessary to enable them to teach well. One hundred and thirty teachers were present. They were divided into three classes, meeting each Saturday at 9, 10, and 11 o'clock a. m., respectively. September 13 I commenced my course of instruction, which was continued until December 20, when I conducted an examination for primary school certificates. Of those who presented themselves for examination sixty nine received certificates. This closed the regular course of instruction for the year. One hundred and eleven were present at the last lesson, which was about the average attendance throughout the course.

Many teachers were still desirous of pursuing the study, and to meet this demand another class was formed, which was attended by thirty-five, and continued with unabated interest until the last Saturday in April.

In the normal school the lessons were commenced the first week of the school year and continued to its close. Walter Smith's Free-hand Drawing Books Nos. 1 and 2 were completed, and, in addition to these drawings in the text books, lessons were constantly given in dictation drawing, design, object drawing, and drawing upon the blackboard, an acquisition of great value to teachers.

Much attention was also given to the best methods of teaching young children, which methods were practically tested by the young ladies in their practice lessons given in the schools. Judging from the interest manifested in the study and the proficiency attained by all, it may safely be predicted that schools in charge of these young ladies will be carefully instructed in drawing.

The attainment of this result was greatly aided by the sympathy and hearty coöperation of Miss Smith, principal of the school. Her keen appreciation of the value of such knowledge for its own sake, and more especially of its uses in connection with almost every other branch of study, induced her to give to it all possible encouragement.

Arrangements were made for a class of twenty boys to receive special instruction. Five were sent from each of the four school districts, and the class was organized in the hall of the Jefferson building, September 23, to meet Tuesday and Thursday of each week at 9 o'clock a. m. The same text books were used in this class as in the normal school. The drawings in No. 1, No. 2, and part of those in No. 3 were completed, and lessons in geometrical, dictation, design, and object drawing were given. These boys are now prepared to take a course of geometrical, perspective, and model drawing.

May 29 an examination and exhibition of the drawings made by this class were held in the male grammar school room in the Franklin building, on which occasion prizes were awarded to Charles H. Ourand, second district, for best drawing on blackboard from dictation; to C. W. Lemon, second district, for best original design; to D. Twichell, third district, for best object drawing on blackboard; and to A. Bradford, third district, for best drawing in text books.

At the same time the drawings of the young ladies of the normal school were exhibited in their own room. In the hall between the two rooms specimens of drawing from many of the schools were shown. These were very creditable, and evinced an intelligent appreciation of the subject on the part of those teachers whose schools were represented, and an earnest desire on the part of the pupils to profit by the instruction. It is my hope that in another year there will not be a school in the city where such instruction will not be attainable, for I know the demand for it by both parents and pupils is earnest and increasing.

The effort this year has been mainly directed to the laying of a sure foundation for future work. To this end the instruction to the teachers and in the normal school has been given.

The employment of special instructors in drawing has never succeeded in public schools. In high schools, in normal schools, and in classes formed for the benefit of those possessing unusual talent a specialist is necessary, but in the other schools the object to be attained is a general culture in this direction, such as may be given by competent teachers in whose regular course of study this subject has been included.

Where drawing has formed a part of their regular school course, teachers find it no more difficult to teach this than other branches. That this has been a great want in our educational systems all who have given any thought to the subject know, and where this early training is wanting it requires some special effort on the part of the teachers; but instances to prove that those who teach other things well can in a short time acquire sufficient knowledge to teach drawing well were numerous in our own schools the past year.

Teachers also require the assistance of good text books and manuals. I have carefully studied and used the text books and manuals by Walter Smith now in use in the Boston schools, and am convinced that they are most efficient guides for teachers.

In the variety of subjects taken up lies, I think, one great secret of their efficiency. As this has been considered by some an objection to his method, it may be desirable to point out how this variety assists in acquiring a knowledge of the subject.

All forms are expressed in drawing by combinations of straight lines and curves. To see these lines and to express them correctly require a certain amount of practice. If you wish to train a class of pupils to draw lines and to have some idea of their relation to each other, you may, if you choose, confine them to the drawing of lines in different positions, and their combinations as given in copies placed before them. With the time that can be given to the study in our schools, the average pupil will require two years before he can make neat and creditable drawings of these combinations, supposing that his interest in the subject can be kept up so long, and without other resources it will require more than ordinary tact in the teacher to sustain the interest.

But the teacher can give a portion of the lesson in this way as drill, and then call upon the pupils to invent combinations of lines, at the same time explaining and illustrating what combinations produce the most pleasing effects, just as the teacher of music drills upon the vocal sounds and then leads the class in a song. Neither the design nor the song will be perfectly expressed, but they will give to pupils a realizing sense of the end for which they strive and a feeling of satisfaction at having accomplished something, and these are invaluable to them. This is design.

Another time, instead of the flat copy, the teacher can take the object itself, and by a drawing upon the board show what lines and proportions express the form, and then, erasing it, call upon the pupils to reproduce it from the object alone, requiring as much accuracy as the pupil is equal to, and no more. This is object drawing.

Again, when combinations of lines are first given, it is just as easy and requires no more time to combine them into triangles and other geometrical figures, teaching at the same time the names, than it does to pursue any other course. This is geometrical drawing.

If this instruction is sometimes varied by dictating the lines instead of giving copies, it will fix the attention of each pupil upon the lesson, keep the mind alert, and impress indelibly upon the memory the name of each line and form. This is dictation drawing.

Now, each of these exercises gives the pupils practice in making lines. The amount of drill obtained in this direction is just the same as they would have obtained had they been confined to one subject; and they have at the same time acquired a knowledge of geometrical form, which, in combination with their object drawing, will enable them to understand perspective, the ability to see intelligently and express correctly the forms of simple objects around them, and some idea of the harmonious arrangement of lines as seen in the best design.

They will have been cultivating a habit of observing, analyzing, and comparing, and this habit will be of incalculable benefit to them. They will also have acquired an interest in the study, that will increase as they proceed to more beautiful combinations, and grow to a more correct appreciation of what is truly beautiful.

Such instruction is valuable to all, and at the same time it lays a foundation upon which the mechanical draughtsman, the industrial designer, and the artist can build with safety; and when technical art schools are established here, as they will be, there will go to them from our public schools a class of pupils who will be able to profit by and do credit to them.

The lack of such general cultivation has been the greatest drawback to the success of schools of art in this country. It is only when the masses have some clear idea of what is truly valuable in art that the best art work can be produced.

We cannot get the fruit until the seed is planted, and the place to plant it is in the primary school, for it must have time to grow. Give it a gradual, not a forced growth.

Drawing should have its proper place in the school training of each child's life, not as an accomplishment, but as an essential part of practical education.

Respectfully submitted.

S. E. FULLER,
Teacher of Drawing.

MR. J. ORMOND WILSON,
Superintendent of Public Schools.
JULY 20, 1874.

Upon this report Superintendent Wilson comments as follows:

The increased interest in the study of drawing manifested by both teachers and pupils, the improvement in the methods of teaching and in the results of the year's work, were so marked and generally recognized that Mrs. Fuller needs no other commendation than that given by her own works. The very satisfactory progress made will ensure for her views and recommendations the considerate attention of the board.

In his report for the year ending June 30, 1877,* Superintendent Wilson reviews the brief history of the new experiment. His clear distinction between the old and new methods of studying drawing is worthy of notice, as is his concise statement of the steps by which success has been secured.

Walter Smith's system of drawing was introduced into our public schools in 1874, and its advent signalled the end of the old method — system it could not be called — of attempting to draw a little of almost everything — flowers, fruit, foliage, castles, landscapes, machines, animals, bits of architecture and perspective, even the marvellous face and form of man.

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* See Third Report of the Board of Trustees of Public Schools of the District of Columbia, 1876–'77.

The new system recognized an exact knowledge of geometrical forms as the only basis of instruction in drawing, and the ambitious forays into the domain of high art which were formerly attempted were postponed indefinitely, or, at any rate, to the quite distant future.

In the beginning our teachers had neither a knowledge of the methods of teaching nor of the subject to be taught. They manifested, however, a most commendable desire to learn both, and classes embracing the entire corps of teachers, with three or four exceptions, were immediately formed and placed in charge of Mrs. Fuller, the present supervisor of this department of instruction. They have met regularly every Saturday during the first half of the school year until the present time, and will continue to meet until there is no longer any necessity for it. Examinations of these classes have been held each year, and graded certificates of proficiency have been given to teachers who have passed.

The instruction in no study of the course is now giving better results, and this is due to the excellent system of Mr. Smith, and the fidelity and skill with which it is taught by the regular teachers of the schools, under the able supervision of Mrs. Fuller and her assistant, Miss Wilson.

In the report for 1877–'78 the remarks of the superintendent show that the study has attained a sure footing in the schools:

The utility of a knowledge of drawing and the excellent discipline received from its systematic study through the whole course of instruction provided for our public schools are not questioned, so far as I am informed. Any discussion of these points at the present time is therefore quite unnecessary. The study was introduced into our schools and started upon a proper basis. Too much was not attempted at first nor at any subsequent time. The annual exhibition of drawing, near the close of each school year, shows satisfactory progress in this study.

It will not reach its intended limit of advance and usefulness until the pupils who were in the lowest grade when it was introduced have passed up regularly through all the grades to the highest, inclusive, and received the instruction which the whole course affords.

As relating to the status of drawing in our schools, I quote from the late Mr. Charles B. Stetson, an educationist whose opinions, especially in the matter of industrial drawing, are regarded as good authority. In a report based on the International Exhibition at Philadelphia, on Popular Instruction in Elementary Drawing, he said:

"The capital of the nation exhibits nine bound volumes of drawings, which illustrate the work done in the different grades of her public schools. There are drawings from flat copies, greatly enlarged; original compositions for decorative purposes; outline drawings of models and natural objects; with a few attempts at light and shade.

"The whole exhibit is deserving of praise. It shows a rational plan, which, so far as it goes, is well carried out. Other features can be readily added. The students of the normal school, where the course covers but one year, and none of the students had been previously instructed in drawing, make a decidedly commendable exhibit. With such a good start in the right direction, Washington should soon be able to do all that is desirable for drawing in the public schools."

A paragraph in the report of the teacher of drawing for 1879–'80 gives incidental testimony to the utility of drawing in the teacher's profession:

There is an increased demand upon teachers for the power to illustrate by blackboard drawings the subjects they are called upon to teach. Natural science cannot be taught effectively without it, and in geography, history, and language lessons it is of such assistance that no teacher who has once acquired and used the power will think it possible to teach without it.

In view of this it was thought advisable to arrange a course especially adapted to assist teachers in this direction. A blackboard illustration to be effective must consist of the fewest possible lines that will tell the story. An attempt to do too much is the most common fault in such drawings. To counteract this, instruction was given entirely from the blackboard, each drawing being given in three stages—a diagram, a block, and a finished outline. The drawings by the class of objects, plant forms, human and other animal forms, displayed upon the blackboard throughout the year and at the annual exhibition, gave evidence of their untiring industry and the skill they had acquired.

In this connection it is proper to say that no legitimate means were neglected by the trustees or the superintendent for awakening the interest of pupils, teachers, and the community generally in the new study. As Professor Walter Smith attended the convention of State and city superintendents of education in 1875, he was invited to meet the teachers of the public schools, and to personally explain his system and demonstrate his methods. The remarkable enthusiasm and personal magnetism of the man, qualities possessed by all great teachers, could not fail to inspire his auditors, and a great impetus was given to the progress of the new study.

EXHIBITIONS OF SCHOOL DRAWINGS IN WASHINGTON, D. C.

At the close of the first year after the appointment of Mrs. Fuller. an exhibition of specimens of pupils' work from all the schools was arrayed in the Franklin Building, and the public were invited to inspect them. The work of the pupils of the normal school was also shown in their room in the same building. The exhibition closed with public exercises in one of the school rooms, when the select class of boys, five chosen from each public school, gave examples of their work, by drawing upon the blackboard, in presence of the audience, from memory, from dictation, and from objects, with free hand. These exercises were full of interest. Prizes were then awarded by a committee of artists and experts, after which a short discourse appropriate to the occasion was delivered by some previously appointed speaker.

ADDRESSES AT ANNUAL DRAWING EXHIBITIONS.

Prof. J. E. Hilgard, the present Superintendent of the United States Coast Survey, gave the address upon the first occasion. He has been followed in succeeding years by the late lamented Prof. Joseph Henry, Secretary of the Smithsonian; Dr. Reyburn, the chairman of the committee on drawing; Dr. MacLeod, curator of the Corcoran Gallery of Art; Col. I. Edwards Clarke, of the United States Bureau of Education, and Mrs. Vinnie Ream Hoxie, the well known sculptress.

These exhibitions attracted large and interested audiences and have been continued annually. The number of drawings shown have increased from about one thousand, shown in the first exhibition, to nearly three thousand shown at the latest. The specimens of penmanship, drawing books, and separate drawings numbered some six thousand, while the improvement in the character of the work shown has increased still more rapidly.

Since the publication of the report for 1879-'80 no annual reports by the superintendents of the schools of Washington and of the District of Columbia, have been published in book form.

I am indebted to Superintendent Wilson for a copy of a report made under date of December 31, 1883, by Mrs. Fuller, the director of drawing, from which it appears that the plan of instruction during the past three years has but slightly varied from that previously followed.

Attention has been chiefly directed to perfecting its details. A constant aim has been to introduce some "object drawing" in the very youngest classes, as this "infuses a vitality into the instruction to be obtained in no other way." The "making of working drawings, which was experimentally introduced last year," is now begun in the fifth instead of the sixth year.

The conventional methods of representing the facts of form and the measurements are taught, and as far as possible the children are led not only to make drawings but to read them, and construct from them simple forms; in other words, they are drilled in the practical application of their knowledge of drawing.

Most of the regular teachers having passed through the four years' course of instruction in drawing given by the director, and many of them having been thoroughly trained in this study in the normal school, much of the work formerly done by the director of drawing in drilling the teachers, was not called for. Special subjects were, however, treated in a course of Saturday lessons attended by the teachers during January, February, and March.

Instruction is continued in the high school, and the special class of advanced boys is kept up. The value of this training to these boys, in fitting them for usefulness, has been fully demonstated by the experience of many of the former pupils. This class receives two lessons per week. The drawings are made in blank books and on paper, from illustrations on the blackboard and on paper made by the teacher, from objects, from casts, and from nature. Two years gives a course in plane geometrical drawing, projection, perspective, object and cast drawing shaded with stump, flower drawing, design, and historical ornament. The third year is elective, choice being allowed of either one or two of the following courses: Instrumental drawing, consisting of advanced lessons in projection and perspective, with architectural and mechanical details; cast drawing; flower painting, and design in color.

Mrs. Fuller states that a small but good collection of casts for use in the high school has been procured during the past year. She advises the purchase of a few additional books on art for the library of the high school, and suggests the following list of works most likely to be useful: Lübke's History of Art; Illustrations of the History of Art, a series of illustrations arranged chronologically and forming an atlas to be used with any history of art; Suggestions in Design, by John Leighton; James K. Colling's Art Botany; Redgrave's Manual of Design; Architectural Styles, Rosengarten.

If the study of drawing is to be pursued during the whole course of school life, the utility and desirableness of giving to the advanced pupils access to a few well selected books, relating to the history of art and the application of art to manufactures, can hardly be overstated.

The report ends with the following account of the work in the normal school, and a statement of the arguments for holding hereafter the public exhibitions, which, owing to want of suitable room, have been given less prominence the past two years:

In the normal school the principal object of the instruction is the application of the skill already acquired to a specific purpose. Still, great improvement is made in execution by the constant use of pencil and chalk throughout the year. The course consists of lessons in teaching from first to eighth grade, object drawing, and the drawing of animal and plant forms for illustration. During the spring term drawings are made from nature of the wild flowers of the District, and lessons given in the application of these forms to design. Fifty sheets, 13 by 15, of object drawing and plant forms from nature were exhibited at the close of the year in this school. One hundred and ten of the same size were exhibited at the high school examination. These were object and cast drawings; drawings of buildings in various parts of the city; plant forms from nature and design; geometrical problems; exercises in projection and perspective. Each school displayed drawings at the closing exercises, but no general exhibit was held, as in former years.

It seems desirable that if possible such an exhibit should be held the present year. A general exhibition is inspiring and gratifying to pupils, and affords the public an opportunity of seeing something of what is accomplished in this branch of education in the schools, and, by presenting in a condensed form the complete development of the subject, serves to dissipate many false impressions in regard to the methods pursued and the objects to be attained.

Respectfully submitted.

S. E. FULLER,
Director of Drawing.

DECEMBER 31, 1883.

DRAWING IN THE COLORED SCHOOLS.

The study was introduced in the colored schools in 1873, and met with fair success, so that the progress the first year was "more than was expected." Some hindrances occurred during the following year, but Mr. Cook, the superintendent of colored schools, reports as follows for 1875–'76:

Much progress was evident in this branch of instruction. Smith's Manuals in Drawing were introduced into the schools, and a course marked out for the different grades of schools which, it is believed, when sufficient time for its completion shall have elapsed, will prove as satisfactory as the courses of instruction of those studies usually denominated regular.

At the beginning of the school year Mr. Thomas W. Hunster was appointed by the board as special teacher, and assigned to the charge of this department. With the view to the attainment of the best possible results through systematic and intelligent instruction, the corps of regular teachers was formed into classes and weekly instructed by him. The benefits from this special training of the regular teachers were apparent in every school room.

During school hours his time was occupied in direct instruction in the schools of higher grades, with the exception of occasional supervision of that in the lowest grades. The great pride which he at all times evinced in the success of his work, and the earnestness with which he prosecuted it, foreshadowed the excellent results for the year.

The first public exhibition in drawing ever held in these schools took place at the Sumner Building on the 26th day of May. All available space in the main hall and in every school room of this building was occupied by the hundreds of specimens from the different grades of schools in the two cities. The work as a whole was very creditable.

The degree of aptitude and capability for this study, already so positively evinced, shows that the schools require only a few years of continued proper direction to rank them among the first in this branch of instruction.

In the annual report of 1876–'77 Superintendent Cook reports as follows:

A very considerable degree of improvement was noticed generally in penmanship, which undoubtedly is to be attributed to the great interest manifested in drawing.

DRAWING.

Four years have elapsed since the introduction of this study into these schools. The work of the first year, and the promise that it gave, were almost wholly lost in the very meagre results, from want of proper instruction in this study, in the succeeding year. It may be safely said that the present standing and acquirements of these schools in drawing are principally due to the efforts of the present special teacher.

In the schools as a whole the results were good. The progress of those under the immediate instruction of the special teacher was excellent.

The great aptitude and fondness for this study, manifested in all grades of schools, call for the utmost vigilance and caution to repress a degree of haste inimical to accuracy and real excellence. Therefore, too great stress cannot be placed upon instructions to restrict pupils to the requirements of their grades.

Considerable progress towards the most desirable grading, which must require time, was made. I submit herewith the report of the special teacher:

"SIR: In compliance with your request, I submit the following report of the study of drawing in these schools:

"I entered upon the duties of teacher in this study at the beginning of the school year 1875–'76. My first step upon assuming said duties was to visit each school and note the degree of progress the pupils had attained through previous teachers, which I found to be rather meagre for two years' training. The schools were ungraded, and the pupils seemed rather disposed to treat drawing as a mere pastime, having but slight idea, if any, of its importance or usefulness.

From this visit I also learned that, with so large a number of schools, I could not accomplish the results desired, as the time permitted by school hours would not be sufficient to permit me to devote any length of time to a school by weekly visits, and that an interval of longer duration would materially affect tho interest which I desired to awaken in the pupils. Therefore, upon consultation, the corps of teachers was formed into two divisions, each of which was instructed by me onco in two weeks. This course was found to work excellently, as I succeeded in reaching tho pupils in every grade of school through the instructions given to the regular teacher, and awakening in them a marked degree of interest in the study.

"My next step, in furtherance of the early attainment of the full grading required by the course of instruction, was to map out a course which I thought would be best suited to general capacity, and which, at the same time, would attract the interest on the part of the pupil sufficient for accomplishing my purpose. This step, which was at first experimental, met my wishes to such an extent that I continued it, and found that by its continuance it created an interest more marked and progress greater than I had even hoped for. In many instances the zeal and ambition exhibited by the pupils were of the most encouraging character, and led me to test them even beyond the course prescribed, with very satisfactory results.

"During the past school year I instructed weekly thirty-four schools, exclusive of the high school. In it I gave two lessons a week, devoting forty-five minutes to the entire school and thirty minutes to a special class, which was formed during the early part of the school year, of such pupils in that school as showed the greatest degree of proficiency in drawing. * * *

"The primary and grammar schools were divided into two classes, designated first and second, the first being the more advanced. In the primary schools the first class had paper and blackboard exercises, while the second was confined to the slate. In grammar schools pupils were instructed from No. 3 Intermediate Freehand Drawing Book, and dictation exercises on slate and blackboard.

"There were three classes in the high school, designated special, first, and second. The special class had studies in advance of those pursued by the first and second classes. The limits of instruction for each class were as follows: The second class received instruction from No. 3 Free-hand Drawing Book and designs drawn on blackboard. The first class had instructions from No. 3 Free-hand Drawing Book and plates; also blackboard exercises. The special class was composed of forty members. Instructions were given them from No. 4 Free-hand Drawing Book, and from plates. They were also required to furnish original designs and copies from ornamental and architectural designs.

"There were two examinations of all the schools in this study during the year, one in January and the other in April, and the results produced by each examination proved generally satisfactory.

"The exhibition in drawing was held on the 26th of May, 1877, in accordance with the prescribed rules, at the Sumner Building, at which place over two thousand five hundred specimens, embracing the various degrees of instruction given from linear drawing to features of the human figure, and the books of all grades, were on exhibition. I am glad to note the increasing interest in this branch of education in our schools, and I think that it is in many instances largely due to the fact that it is made a part of the general standing in scholarship of the pupils for the year.

"THOMAS W. HUNSTER,
"*Teacher of Drawing.*

"Mr. G. F. T. COOK,
"*Superintendent Public Colored Schools.*"

In his report for the year ending June 30, 1878, the superintendent of colored schools notes an excellent degree of progress in drawing, but urges the necessity of more general instruction of the teachers:

A feature of the year was industrial drawing, in which there were two classes, one for girls and the other for boys. The conception, organization, and instruction of these classes belonged wholly to the special teacher.

Gold and silver medals for excellence were this year awarded to meritorious pupils in drawing. In the report of the special supervising teacher the following notice of a step forward in the way of the practical application of the study is given:

Early in the year the idea was conceived that the application of art to industry might be accomplished by establishing an industrial school. This idea met the approbation of the school officers, but as they had no means at their disposal for employing a teacher, I planned a way by which the school could be opened with but little expense. The necessary materials were purchased at very reasonable rates, and I took charge. On Saturday, January 12, twenty-five boys were enrolled. The object of the school was explained to them, and the specific work of each pupil designated. On the following Saturday the lessons were begun, and continued every Saturday from 9 A. M. to 12 M. during the remainder of the year. The interest manifested was very encouraging, and the attendance and deportment were good.

In addition to the regular work of the year, the schools furnished a book of drawings for the Paris Exposition. The drawings, one hundred and thirty in number, were made on large sheets of tinted paper. All grades were represented.

At the annual exhibition three thousand specimens, surpassing in variety and general excellence those of any previous year, were exhibited.

The industrial exhibit, because of its novelty as well as utility, was decidedly the most attractive feature.

THOS. W. HUNSTER,
Teacher of Drawing.

FURTHER DEVELOPMENT OF INDUSTRIAL TRAINING DESIRABLE.

Drawing in the Washington schools has now reached a point where another advance and broader development is called for.

With a corps of teachers fully competent to give elementary instruction, and a large body of pupils who have been drilled in the study during their entire school life, the foundation is secured on which to base a forward step—in the practical application of this knowledge to industries.

This may require some reorganization and addition to the teaching force, and some provision for technical instruction in mechanical and artistic industries, so as to give to the older pupils such trained skill as will fit them to step at once from this school room to the workshop and the atelier, to be able to enter the designing room and to make working drawings for the carpet weaver, the silk mill, and the pottery, as well as for the blacksmith and carpenter.

Till this can be done by the schools in all our larger towns and cities, this study of drawing in the public schools will not have reached its proper development, and therefore must fail to be fully justified as being the practical preparation for a useful life, which it may and ought to be.

This is well understood by Superintendent Wilson, whose efforts to introduce and develop this study have been so ably seconded by the board of school trustees and by the teachers; while the results of this study already achieved have been so satisfactory to the public that there should be no danger of hindrance to the execution of any plan the superintendent, guided by his practical experience, may mature for developing this line of education to its fullest usefulness.

Here in Washington experiments may be tried for the benefit of the whole country, and here, the value of the complete development of this attempt to give in the public schools efficient training for artistic industries, can be most economically tested by the people of the United States.

It is because the knowledge of whatever is done in Washington is so accessible to the people of the whole country, that it has seemed proper and of interest to detail the history of this experiment at such length.

Unless training in industrial art is pursued to the achievement of practical results in the production of artistic articles by those who have had the benefit of this training, the country will miss the end for which all this preparation was undertaken.

CHAPTER VII.

CONCURRENT CONTEMPORARY TESTIMONY CONCERNING DRAWING IN THE PUBLIC SCHOOLS.

An abstract of various published statements by educational officials in regard to the topics relating to industrial, and industrial art, training in the public schools.

INTRODUCTION.

In the previous chapters of this Report the successive steps taken by the promoters of the new movement, from the first inception of the plan of introducing drawing as a required study in the public schools of Boston and of the State, have been traced, as they appear in the official reports of the State board of education of Massachusetts and of the school authorities of Boston.

The history of this successful movement is there given down to 1882, and it is interesting to note how, through all these successive reports, the purpose of still further enlarging the practical character of the training given in the public schools, can also be traced, till, in the last report, the adoption of some form of industrial training is openly advocated, in several articles, by distinguished educators.

A brief statement of some of the causes that led to this movement in Massachusetts is given in those pages of the circular published by this Bureau in 1874* which are quoted in Appendix B to this volume.

The very able report upon the drawings shown in 1876 at the Centennial, by the schools of various States, cities, and towns, which was made at the time by the late Mr. Charles B. Stetson, shows the progress that had then been made since the first beginning in 1870, and gives a clear picture of the actual state of industrial art education in the public schools of the United States in 1876.†

The causes that led to the movement for the introduction of drawing, the names of the educators who first promoted it, and the progress made during the first six years, as shown at the Centennial, are thus set forth in the pages of this Report. With the further purpose of showing the progress since made, not only towards the general introduction of this study throughout the United States, but also towards the further development of industrial education in the public schools, and as giving the results of the observation and experience of a number of educators, both before and subsequent to 1876, the following extracts from various official educational reports made by town, city, and State authorities, are here collated.

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* Circulars of Information of the Bureau of Education, No. 2, 1874, Drawing in Public Schools; The Present Relation of Art to Education in the United States. Prepared by I. Edwards Clarke, A. M. pp. 56.

† See Appendix E.

Extracts from such reports as enter into discussion of principles underlying the present needs of the schools, or as give practical suggestions as to the methods of study, have been chosen.

Had space permitted, many additional extracts could have been inserted; the purpose has, however, been to give the testimony of representative educators covering the various topics relating to drawing; rather than to accumulate mere repetitions of favorable opinions as to the study itself.

When methods are unsettled and important changes are everywhere discussed, and when, also, the immediate needs of widely separated localities are so varied and unlike, as they must ever be in a country embracing so large a portion of the earth's surface and having such diversified forms of industry as the United States, it is of the highest importance that every need, and all views, shall be fully and fairly represented. That which may be imperatively demanded as a part of a child's training in a crowded manufacturing city may easily be only a hindrance to a child in the sparsely settled communities of the frontier.

This will be readily seen as we approach the subject of the technical training of a future workman, for which reason all technical training can be wisely remitted to the latter years of the child's education, and to the wisdom of the particular community in which he is growing up, which may be supposed to know something of its own special needs.

All who believe in free public education are, however, agreed on certain elementary literary studies as the basis of any education, and as equally needed by all human beings who aspire to any intelligence; capacity to speak, read, and write correctly one's native language, is held indispensable among all civilized peoples; knowledge of the elementary principles of mathematics is also reckoned as essential. These are needed everywhere, by everybody, for all have occasion to read, write, and cipher.

Now, the advocates for the introduction of drawing into the public schools base the claim of their study upon no narrower grounds. Drawing is a universal language, common to all people, essential to every form of manufacture, useful to every individual, always convenient, often indispensable. Drawing can be taught to every normal child as readily as reading or writing. The child who can draw readily and correctly, can be taught any kind of manual industry much more readily than the child who is ignorant of drawing.

To be able to draw is to be more sure of being able to earn a living now; before long not to be able to draw will be as disgraceful as it now is not to be able to read and to write. It will be an evidence of inferiority.

The parent who does not take care that his childern are all taught to draw, will then be held to have been as derelict of duty as he who now suffers them to grow up ignorant of their letters.

Such are the affirmations of those who urge the universal teaching of drawing to all children. These assertions are supported by what they regard as absolute proofs. It remains for those who object to this new study to disprove their statements.

Those who keep informed as to the movements in the educational world are aware that the pressure of industrial demands are everywhere increasing.

In all European countries, and in the more crowded portions of the United States, there is a demand for such a school training as shall give better results in the way of more fit preparation for the work of life. Object teaching, trades in schools, trade schools, technical mechanical schools, arė some of the solutions proposed and discussed.

Meantime the public schools *can* give to their pupils the elementary training in drawing which will render them more apt pupils in any subsequent industrial training which may be desirable.

The primal object of this Report is to furnish such information as will both induce and enable the public to look into this matter of industrial drawing, and, if its claims arė admitted, to take immediate steps for its introduction into all schools. With this purpose attention is asked to the following testimonies of teachers and educational officials.

CONNECTICUT.

The first extract is taken from the report of Mr. John Henry Brocklesby, school visitor of the city of Hartford, Conn., contained in the Annual Report of the State Board of Education for 1879 (see pages 191–193 of said report):

VOCAL MUSIC AND DRAWING.

It is not now necessary to speak of these studies as experimental. The only regret is that they were not introduced into the regular course of study years since. A system which pretends to give a proper fundamental education without these studies is incomplete, and the demands of the present time, differing somewhat, perhaps, both in nature and in kind from those of the past, require that these studies should remain where they have been placed in the lists as a part of the usual school routine. It is only the essentials and the elements of music and drawing that are taught, and neither is given such prominence as to lead to the criticism that accomplishments rather than the first principles of a necessary branch are being given to the scholars.

PUBLIC SCHOOLS IN NO SENSE TECHNICAL SCHOOLS.

The public school is not and should in no way be regarded as a technical school. The course which has been pursued here strikes the happy mean, in that the studies mentioned are made minor in importance and are not pursued to that completeness which is seen in the more prominent and essential branches. * * *

The study of drawing is in an entirely different line from that of vocal music, but is none the less essential to a perfect system of public instruction. With us it has found many apt pupils, and has been of good general effect, as regards the whole list of branches. It is one which underlies all the mechanic arts, and is as useful as it is far reaching in its application.

DRAWING SHOULD BE TAUGHT TO THE YOUNGEST SCHOOL CHILDREN.

It is interesting to notice how pleased the younger children are with it, and how by nature they seem to require it and are fitted to it. It is a branch which should be taught one in his or her younger years, when the training which the eye and hand receive will be properly inclined, and the habits in time truly and correctly formed. This is particularly desirable with us, inasmuch as we have as yet no public schools of the Kindergarten order. By drawing is not meant mere picture making; the instruction is of far more general character, and aims at what is useful rather than what is simply ornamental.

DRAWING VALUABLE AS AN AID TO OTHER STUDIES.

It is intended to be, and is, thoroughly practical in its bearing, and is an aid to other studies, particularly writing, arithmetic, and geography. The valuable relation which it has to map drawing alone affords a sufficient excuse for being, if excuse is needed. It trains one to observation, to correct ideas of forms, of heights and distances, and in truth is wholly general in its nature. It is not as a study ranked or intended to be ranked as more than an elementary branch. It does not hold the position that it naturally would in a strictly technical school. It aims, and succeeds in its aim, to give one a good general idea of an art which in after years can be made available for purposes almost innumerable. It was a wise provision that placed drawing and vocal music upon our list of school studies. They have proved themselves invaluable in more ways than one. As time passes, the appreciation of their value increases more and more.

In the Annual Report of the Board of Education for 1881, the New Haven school authorities thus bear witness to the value of drawing in their city schools:

EXHIBITION OF PUPILS' DRAWING IN NEW HAVEN, CONN.

The specimens of drawing exhibited at the last annual examination, at the rooms of the high school, were inspected by hundreds of our citizens, with apparently great satisfaction. No branch of study seems to be more thoroughly established in the course, nor more successfully pursued, than drawing. Not only are skill and a higher appreciation of art cultivated in the minds of thousands of children in this community, but their usefulness is increased by the many applications they can make of the art in every business employment, and their pleasure is enhanced by a more, cultivated and appreciative taste. A considerable number of former pupils are known to be receiving liberal pecuniary compensation for their service, in furnishing designs plans, sketches, etc., in various kinds of business.

IOWA.

In the biennial report of 1881, Mr. C. W. von Coelln, superintendent of public instruction of Iowa, thus comments on the pressing need for industrial training:

The demand of a substitute for the old apprenticeship is becoming stronger and stronger, and the time will come when measures must be taken to secure skilled mechanical labor by training at home, or else we must import all such labor from foreign countries.

How to secure this training is a grave question. Some of the New England cities are making efforts in the right direction. Whether we are ready for it or not, I do not wish to determine. The Agricultural College is doing a part of this work, but the few who secure training there are expecting to be employed not as mechanics, but as professional superintendents.

Schools for boys at an age of fourteen to eighteen years, who have obtained a fair English education, are needed. These schools should be under the direction of competent master workmen. If such persons cannot be obtained during the summer, these schools might be conducted in the winter, or during evening hours.

A law authorizing boards of directors to provide such schools at the request or by the vote of the electors can certainly do no harm and might result in great good.

In all our schools drawing should be taught, and with special reference to its use for practical purposes. This is as far as we can go, perhaps, at this time.

The following arguments in favor of object teaching are from the report of Mr. W. W. Speer, school superintendent of Marshall County, Iowa:

OBSERVATION AND NATURAL SCIENCE.

Why is it that children who are delighted with the simplest things, a toy, an insect, a stone, or a flower, who are full of curiosity, are many of them, when grown, mentally dead? It is thought that naturally the number of dunces does not exceed the number of deaf; but it is evident that by some process of manufacture the number of the former has grown to be greatly in excess of the latter; and as it is the province of the common schools to sharpen the mental faculties, and as the schools turn out so many with blunted perceptions, it naturally follows that our educational system is in some way at fault. * * *

OBJECT TEACHING.

Any system of education that is not natural is harmful. Any system of education that does not excite the faculties of the child in such a manner as to give pleasure is not a rational system. The child to whom the study of books gives pleasure is the exception; the child to whom the handling and study of objects does not give pleasure is not a natural nor a healthy one.

There is not an educator in all this broad land who does not place a high estimate on the value of object teaching. Intelligent object teaching must be based on a thorough knowledge of objects. Is it possible for a teacher to excite an interest in the study of animals, rocks, and flowers unless he is familiar with these objects himself? Can teachers train pupils to habits of accurate observation unless they are acquainted themselves with the things to be observed? Can a color blind pedagogue give a lesson on color? No more can one who is purblind to the objects in nature give an object lesson. Teachers must know the way, and have travelled it themselves, before they can point the way to others.

A very ordinary person, be he familiar with stones and insects, birds and flowers, can excite the curiosity, develop the observation, and train the child to think; but it takes a genius to make the study of a book pleasurable to a child. It takes genius to breathe life into a dead word or definition.

* * *

NO TIME FOR NEW STUDIES.

But there are objections to enlarging the curriculum of the common schools. The principal one is: "We haven't the time to teach these things." Haven't the time! Haven't the time to study objects, the ideas, of which words are mere symbols, but must devote all the time to the mere study of words only! To me this seems very strange.

All the branches of education belonging to the common school curriculum, or any other curriculum, have their origin in the different phases presented by nature; and if we have time to study nature second hand, we ought to find time to study a little of it first hand.

As long as teachers consider it a religious duty to try to teach the science of language, and not language, to impart knowledge on all the subjects and puzzles in arithmetic, instead of teaching only that which is used in the business transactions of life; as long as they continue to teach the ten thousand details in geography that they themselves have forgotten — in short, as long as teachers persist in feeding their pupils on a great deal of chaff and very little grain, it is true there will not be much time for object teaching.

But when they realize that the common school is not the place for the study of the science of language; that language can be taught and well taught in connection with other branches; that language, spelling, and penmanship can be taught in connection with object lessons; when they confine their efforts in teaching spelling to the child's vocabulary; when they expunge two-thirds of the matter in the arithmetics and geographies, they may then find time for the study of objects. In support of these views, I cannot do better than to quote the opinion of the following eminent teachers and thinkers:

"Instruction must begin," says Comenius, "with actual inspection, not with verbal descriptions of things. From such inspection it is that certain knowledge comes. What is actually seen remains faster in the memory than description or enumeration a hundred times as often repeated."

"Observation," says Pestalozzi, "is the absolute basis of all knowledge. The first object, then, in education must be to lead the child to observe with accuracy; the second, to express with correctness the results of his observation."

"If we consider it," says Herbert Spencer, "we shall find that exhaustive observation is an element of all great success."

"The education of the senses neglected," says Bacon, "all after education partakes of a drowsiness, a haziness, an insufficiency which it is impossible to cure."

Mr. P. S. Morton, school superintendent of Scott County, Iowa, thus testifies to the successful introduction of drawing in the schools of that county, and urges a general law making it a required study throughout the State:

A new feature in our work was that of drawing, taught by Prof. W. N. Hull, of the State Normal School. His system of drawing is simple and very practical. Our teachers were very much interested in it, and we anticipate good results from it. I am fully convinced that industrial drawing ought to be taught in all grades of our district schools. Without it, an important link is omitted in our educational system. I think the legislature should be urged to add it to the branches now required by law to be taught.

MASSACHUSETTS.

The statement in regard to drawing contained in the Annual Report of the School Committee of the City of Boston, Mass., for the year 1876, is here inserted, both because it embodies the testimony of distinguished educators in that and other cities and because it shows the opinion of the educational authorities of Boston after an experience of six years:

Since the introduction of the present course of instruction in this branch of study into our schools, the committee on drawing has published several annual reports, illustrated with heliotype reproductions of pupils' work, selected from the specimens shown at the annual spring exhibition. This course was not practicable for the present year, as the best drawings exhibited in Boston last May were taken to Philadelphia to form part of the Massachusetts exhibit, where, it may be added, they attracted general attention and commendation. A short report (reprinted in this volume) was issued by the drawing committee in June last, but as it was simply explanatory of the revised programme of instruction, some things remain to be said on the subject which may properly find place here.

So much has been already written and spoken about drawing in the public schools, that the pros and cons are generally known to all who take an interest in the matter, and need not therefore be repeated here. Bearing the latter in mind, it is a satisfaction to those who believe in the important influence of the study upon the industrial future of the State to see that time has only strengthened the general feeling as to the force of the arguments used in its favor, and made the weakness of those employed against it more and more evident.

The three letters written by the superintendents of public schools of Boston, Saint Louis, and Milwaukee, lately published in the New England Journal of Education, show that drawing is now heartily accepted as a necessary and most useful branch of study, by men of acknowledged ability and experience in different parts of the Union, and give strong evidence as to the efficiency of the system of teaching it, which we owe to our director of drawing, Mr. Walter Smith.

As answering objections still made in certain quarters concerning its possible interference with other studies in the schools, the words used by two of the superintendents may here be quoted:

STATEMENT OF MR. PHILBRICK, CITY SUPERINTENDENT OF SCHOOLS OF BOSTON, MASS.

"Drawing," says Mr. Philbrick, "if properly taught, is extremely useful as an aid in other studies; and indeed, in my judgment, it quite compensates for the time it takes, by facilitating instruction in other branches. This study was made so prominent at the outset, and so much was attempted at its introduction, as to excite apprehension in some minds lest it should rob other studies of the time and attention that belong to them. But such has not been the result. Drawing is now fairly worked into grade in all classes, from the lowest primary to the highest in the high schools, being taught altogether in the primary and grammar grades by the regular teachers; and I have never yet seen any evidence whatever that this instruction in drawing has produced unfavorable results in the other branches; while, on the other hand, it has been, without doubt, of advantage to some of them."

STATEMENT OF MR. MACALISTER, CITY SUPERINTENDENT OF SCHOOLS OF MILWAUKEE, WIS.

Upon the same point, Mr. MacAlister writes:

"Another experience, also in connection with this matter, is worth mentioning. In no way has drawing been found to interfere with the progress of pupils in their other studies. The amount of work done is just as large, and the quality as good, as before drawing was introduced. If I were to venture an opinion on this subject, I would say that the time devoted to drawing, so far from being lost, results in strengthening the mind of the pupil in other directions, and increasing the number and variety of his mental resources."

As to the value of drawing to the country, the same gentleman writes:

"I believe the introduction of industrial drawing into our common schools to be the first step in the organization of a system of industrial education, which, if fully carried out, will be productive of effects upon the social character of the working classes and the wealth of the nation which even the most sanguine would not dare, at this moment, to predict."

STATEMENT BY MR. HARRIS, CITY SUPERINTENDENT OF SCHOOLS OF SAINT LOUIS, MO.

The following passages from the letter of Mr. Harris show how highly he estimates the study of drawing as a branch of public education, and what he thinks of the fitness of our adopted system for teaching it:

"I am of opinion that the State of Massachusetts, which has adopted this system so generally, and done so much for instruction in this important branch of education will soon stand in the very first rank, among industrial people, for the tasteful ornamentation of its manufactures.

"In this respect Saint Louis, which outranks other Western cities in the variety and aggregate value of her manufactures, aspires to emulate Massachusetts, and therefore regards all money expended in industrial drawing as an investment that will return a hundred fold to the wealth of the city through the increased value of her products.

"I value the Smith system especially for its completeness of system and perfect gradation, embracing, as it does, courses in free-hand, geometric, model and object, perspective, and mechanical drawing, and unfolding an admirable method of developing and conventionalizing original ornamental designs, as well as presenting, in an intelligible form, the historic evolution of ancient ornament. While this system surpasses others in scope, it excels them also in perfection and consistency of details."

Other extracts of the same character might be made from the three letters, but it seems hardly necessary to make them, as those made sufficiently explain the views of the superintendents. At the close Mr. Philbrick's letter he thus expresses his satisfaction in the share which he took in the introduction of the study of drawing in the public schools:

"The introduction of drawing into our schools I regard as one of the most important and practical educational steps undertaken in this city, and there is no part of my work as an educator which I look back upon with more satisfaction than upon my efforts to secure efficient instruction in drawing in the public schools of this city and State."

It will be observed that in the above extracts Mr. Harris, on the one hand, values our adopted system especially for its "systematic completeness and perfect gradation," and Mr. Philbrick speaks with complacency of his past efforts to secure "efficient instruction in drawing in the public schools," thereby leaving the reader to infer that, as at present conducted, he considers that end gained.

These opinions as to the fitness of the system for its purpose, which, to use the words of Mr. MacAlister, the superintendent at Milwaukee, is to "divest the study of its special character, and place it on a level with the other branches in the common schools," are shared by the latter gentleman, who finds in it "the principles which seemed to him fundamental to any attempt at making drawing a common school study." To this subject, in a later portion of his letter, he thus refers:

MR. MACALISTER HEARTILY ENDORSES WALTER SMITH'S SYSTEM.

"I think it only just to state that, in my opinion, no small part of our success has been due to the system adopted. The sound foundations in which the entire course of instruction is based, its admirable adaptation to the organization and objects of the public schools, the accurate methods by which the advancing steps are systematically developed, and the practical direction which is given to the pupil's work from first to last, have all been made so apparent to us that no objection yet put forward from any source has in the least shaken my confidence in Professor Smith's principles, or the vaule of the text books in which they are embodied." * * *

The committee further quote from European authorities. Details, given by the principals of the schools, as to the present condition of the study in their respective schools follow.*

The following testimony, given in 1879, to the value of the study of drawing, as shown in the schools of Boston during eight years, is of interest, as coming from a most competent witness.

Mr. Charles C. Perkins, of Boston, author of Tuscan Sculptors and other well known works on art, was one of the most active promoters of the establishment of the Museum of Fine Arts, and an earnest coadjutor with Superintendent Philbrick in the introduction of industrial drawing in the public schools of the State and city.

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* For these extracts from this report of 1876 see preceeding pages 244-247.

Mr. Perkins, being a member of the city school committee, long served as chairman of the committee on drawing. Having thus enjoyed every opportunity for thorough study of the subject, Mr. Perkins republished in 1879 an address, first delivered by him at Fitchburg, July 27, 1871, "On drawing as a branch of general education," with an additional page, in which is summed up his testimony as to the value of the study as demonstrated by actual experience of its working in the schools down to 1879.

Mr. Perkins also gives testimony as to Prof. Walter Smith's eminent fitness for the position he then occupied as "director of drawing in the city of Boston public schools."

Such testimony as to the practical utility of the study, from one so competent to judge intelligently, is a valuable contribution to the discussion; while his words of appreciation of Professor Smith are a worthy tribute to the master.

The true relations between the province of the artisan and the artist, which exist in all the great periods of art, are here suggested; they will be found eloquently set forth, with fuller detail, in the lecture of Cardinal Wiseman among the appendices to this Report.*

The whole of this lecture by Mr. Perkins is full of interest, but want of space compels limitation to the following extracts:

DRAWING USEFUL TO ALL.

I said that a knowledge of drawing is a useful acquisition to all men, and that it may be regarded either as an accomplishment or as a means of livelihood. To prove this, I propose to speak of the traveller, to whom it is generally useful, and of the artisan, to whom it is specially important. I need not speak of the artist, whose case is self-demonstrable. Drawing is the essential element of his profession, for without a knowedge of it there can be no such thing as an architect, sculptor, or painter. No brilliancy of color can atone for feebleness of drawing in a picture, nor can the utmost technical skill make up for defective proportions in a statue, any more than splendor of imagery or richness of fancy can condone faults against grammar in a poem. Wherefore, a man can no more be an artist without the knowledge of the one than he can be a poet without the knowledge of the other.

Men can, however, be travellers or artisans without knowing how to draw, though in both it is an immeasurable advantage. * * *. If a knowledge of drawing be essential to the artist, and thus valuable to the traveller, what is it to the artisan? The answer to this question is contained in the proper definition of a skilled artisan. A skilled artisan is a mechanic who knows how to draw, and who, thanks to such knowledge has quadrupled the value of his labor to himself and to the state.

RECIPROCAL RELATION BETWEEN ARTISAN AND ARTIST.

In ancient times, in the middle ages and the renaissance period, the relations between fine and industrial art were of the closest character. Then the artist did not disdain to be an artisan, nor the mechanic neglect to make himself something of an artist. Almost all the great Florentine artists of the fifteenth and sixteenth centuries were apprenticed to the goldsmith's trade in their youth. Orgagna, Ghiberti, Pollajuolo, Francia, and many others of equal renown owed to this the exquiste skill and delicacy of hand for which they were distinguished. Ghiberti, having modelled the Gates of Paradise, made a cope button for the Pope; Raphael, after painting the stanza of the Vatican, designed the cartoons for the tapestries which were to be woven in the looms of Arras; Ceillini modelled statues for Duke Cosmo de' Medici, and chiselled cups and salt cellars for King Francis I.

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* See Appendix H.

These great artists were not only skilled in fine arts, but they understood the technical processes of all the industrial arts, and thus designed objects with due regard to the material in which they were to be made. These designs were in many cases carried out by work men scarcely less artists than themselves: men whose taste was elevated by constant familiarity with good designs; men who understood the principles of beauty embodied in these designs, and who therefore worked them out with a pleasure of which their modern representatives have no idea. When their work was done, it met with such ready appreciation that they were stimulated to renewed efforts.

RECOGNITION OF ART BY THE POPULACE OF ATHENS AND FLORENCE.

The Athenians in the days of Phidias, and the Florentines in the days of the Medici, recognized and appreciated good work, and their good opinion was sought by the greatest artists. Phidias, we are told, concealed himself behind a door of the temple when he had finished his colossal Jupiter, that he might profit by the criticisms of the crowd. The Greeks, as Cicero tells us in one of his Verrine orations, dearly loved and valued the fine works of art with which their temples and towns were decorated, and this not only on account of religious feeling. "Believe me," he says, "that nothing has so deeply affected them as the system of spoliation of works of art carried on by our generals; nor has any city in all Asia Minor or Greece ever voluntarily sold a picture or statue, or any such like ornament." Even the Romans, whose indifference to art the great orator here contrasts with the Greek enthusiasm, could not bear to lose the sight of a fine work to which they had become accustomed. Thus, when Tiberius removed the statue of the Strigillarius, by Lysippus, from the public circus to his own palace, they raised such a tumult that he was forced to restore it to the public gaze.

The separation between art and industry in modern times has greatly lowered the general standard. Now, when each pursues a separate path, both the public and the workman are indifferent to the artistic beauty of cups and pitchers and chairs and tables, and regard them solely as objects of use. All that the public desire is that they should be strong and serviceable, and it is to this object that the workman adapts himself. The modern point of view which he takes is totally opposed to that taken by his ancient prototype.

Imagine the confusion of a modern potter suddenly transported to Athens in the olden time, and required to treat his ware from the standpoint of the "Hand Kings" of the Kerameikos; or the consternation of an Athenian artisan of the time of Phidias at finding himself set down in a modern city, where, instead of the fictile vases whose form and decoration made the cheap terra cotta out of which they were fashioned more precious than gold or rubies, he would see vulgar shapes and ugly forms perpetuated in silver! The wish of Pindar, "Oh, may the gods give me the love of beautiful things," had been granted to such as he, and ugliness had become as intolerable to him as vice to Socrates or Plato.

RESTORATION OF OLD RELATIONS BETWEEN THE FINE AND THE INDUSTRIAL ARTS DESIRABLE.

In order to bring back in some degree the old state of things, the men who are interested in art education at the present time seek to raise industry from the low trade level to which it fell when the manufacturer arose and separated it from its legtimate companion

France, where the separation has never been so absolute as in other countries, has always held a superior position in regard to matters of taste. The establishment of those great national workshops, the manufactories of porcelain at Sèvres, and of Gobelin tapestry and carpets at Paris, fostered the taste of designers, whose *status* was raised because artists were employed there, and private manufacturers sought their aid.

The royal manufactories of porcelain established in Germany at Meissen and elsewhere, and the manufactory for the weaving of tapestry at Arras, in Flanders, acted in the same way; but in England, with the exception of the attempt made by Charles I to introduce tapestry weaving at Mortlake, the Government did not endeavor to cultivate public taste, by itself becoming a manufacturer, until the days of Prince Albert.

The wide separation of the great centres of industry in England from the capital, where artists naturally congregate, hindered the union of art and industry, which was favored by the centralization of artistic life at Paris. The central action of the Kensington Museum, through the art schools connected with it all over the United Kingdom, has given a wonderful impulse in the right direction; and individual effort, such as that made by Morris and his associates, to shape public taste, by offering good designs for household articles, tends to the renewal of that old bond between the studio and the manufactory, in which lies our hope for the future.

GEOMETRY THE BASIS OF INDUSTRIAL ART.

Let us now briefly consider what the mechanic wants to learn in the art school. As the great object is to enable him to master form in his own mind, so that he may be able to conceive whatever shape he may have to make or work with, and to understand working plans, he should not only be taught to draw with accuracy any object which is set before him, but also to reproduce it when it has been removed from his sight. Thus his memory will be strengthened, and his mind filled with valuable ideas. He must be taught the use of instruments; learn something of perspective, and something of geometry; for, as some one has said, the old Greek inscription, "None but the skilled in geometry can enter here," ought to be written over the door of every workshop.

To artisans of one class, machine drawing is most important; for without it a man cannot understand the whole of any work of which a portion has been assigned to him, and this he ought to do, because his work is destined to fit the work of his fellows. Artisans of another class — decorators, for example — must master the principles of ornament, be able to draw it correctly, have their taste elevated by a comparison of styles, and even learn how to draw the human figure, which is often needed in decorative work to save it from monotony and insipidity.

WHY IS ARTISTIC SKILL DESIRABLE.

If it be asked why a skilled artisan is better than a common mechanic, I answer, because labor controlled by scientific knowledge is incomparably more valuable, both nationally and individually, than mere labor unaffected by these influences. The close connection between general excellence of workmanship in the mechanical trades and the scientific education of artisans makes it most desirable that it should be given to them, both for their own sakes and for the sake of the community of which they form a part.

The eagerness which our mechanics have shown to enter the free drawing classes opened at the expense of the State during the past year, clearly proves that the desire for instruction is not wanting on their part. One thousand applicants presented themselves for admission within a week after the classes were announced at Boston; and at Worcester, as Professor Thompson has told us in a valuable paper prepared for the Social Science Association, thirty applicants only were expected and two hundred presented themselves.

These men came because they were convinced that what they could learn would increase the value of their labor; or, in other words, that acquired skill would assure them higher wages in the workshop. If they knew how much is done for their brethren in England and France, they would feel that they have hitherto been sadly neglected.

Read the remarks of the deputation of artisans which was sent over to France by the Society of Arts to report upon the great exhibition, and you will see that, with all that has been and is being done for them in England, they found reason to draw a sharp contrast between their own position at home and that of French artisans in respect to advantages for instruction. If they complained, what would a similar body of American artisans have done, who are as much more poorly cared for than the English as the English are than the French?

WHY FRENCH DESIGNERS EXCEL.

One of the most striking characteristics of the French designer is his constant endeavor to profit by the past. He knows that novelty is seldom anything but recombination, and he therefore seeks to familiarize himself with works of all periods and styles. He is lost when he gets out of their influence, and every day feels his inventive powers becoming weaker.

Ask him why our artisans are unartistic and unimaginative, and he will tell you that it is because they have no such stimulus to excite their artistic faculties or warm their imaginations as he has in his museums and art schools, and in the prevailing atmosphere of taste which surrounds him. So far from wondering at their condition, he will ask you if birds can fly where there is no air, or fishes swim without water.

Our artisans want something to see, something to study; and until we give it to them we cannot expect them to make progress. When we have done so, and have taught them how to draw, we may hope to bring about that fruitful union of art and industry which once produced such wonderful results. Then the artist was both poet and artisan, and the artisan both artist and mechanic, and thus it should ever be.

Though the Alp has its sublime solitude, its base, which is firmly planted on the earth, is surrounded by green valleys, whose waving fields of corn give sustenance to thousands. These are nourished by the clouds, which gather about the mountain top and fall upon them in showers, and descend upon them in waterfalls, with fertilizing power. So art, whose realm is the cloud land of poetry, should pour down a beneficient and elevating influence upon industry.

RESULTS OF DRAWING IN SCHOOLS OF MASSACHUSETTS.

Since this lecture was delivered, eight years ago, much has been done in Massachusetts to prepare the way for that fruitful union of art and industry alluded to in the last paragraph.

In 1871, the State had taken the first steps in an organized system of art education, which aims, in her public day schools, to train children to see and render simple forms accurately, by giving them instruction in drawing on a geometrical basis; and in her free evening drawing schools, to form skilled artisans out of common mechanics, by teaching them the principles of machine and building construction, and the application of elements of beauty to articles of everyday use.

Each year, as the means employed have been better adapted to the end in view, and courses of study have been better systematized, the work done in the Boston drawing schools has improved, and their usefulness has been more generally acknowledged. In the classes for free hand and cast drawing, the advantages of the French system of stump and charcoal over the English system of working out labored outlines with the hard point of the pencil, advantages which were explained by Mr. Walter Smith, in his report on the French schools of art, made by direction of the British Government so long ago as 1863, have been tested, and few now doubt that greater facility of hand and a better comprehension of light and shade are thus attained.

That the director of drawing should have adopted views so opposed to those of the school in which he was educated, speaks for his freedom from prejudice, and his fitness for his present position; but lest it may be thought that the use of the pencil and the compasses in the day school, which he has authorized, conflicts with his practice elsewhere, it may be well to explain that this is not the case.

The object in the day schools is one which recommends the use of the hard point, as tending to the early promotion of habits of exactness, and as being both more convenient and more cleanly. Furthermore, no provision being made in the grammar schools for the study of light and shade, the teaching of the elements of form and design in outline is alone possible, and for this charcoal and stump are unsuited.

The reason why the present system of drawing has taken such firm root in our public schools is because it is so well adapted to attainable ends. It is not pretentiously artistic, and therefore sure to excite opposition as being out of the proper province of a common school education; but is, like writing, plainly and practically useful to every child, being sure to strengthen his hands in any future occupation of life.

CHARLES C. PERKINS.

BOSTON, *February* 16, 1875.

The following passage from the latest annual report, that for the year 1881, which has come to hand from the school committee of the city of Boston, is of interest as showing the tendency towards the development of direct industrial training in the public schools; it also shows, incidentally, that drawing has there passed from the list of experimental studies; for, while its value in any course of industrial training is recognized, it is spoken of as domesticated in the schools.

The good judgment and public spirit of such an educator as Mr. Philbrick, and such a citizen as Mr. C. C. Perkins, and the genius and ability of Walter Smith, are thereby exemplified and demonstrated; for, without injustice to the many public spirited citizens who cheerfully aided their efforts, it may be truly said that to those three men, more than to all others, Massachusetts and the United States owe the taking of the initial and decisive steps in industrial art education.

The school committee has again repeated its formal vote of desire to test the feasibility of imparting to grammar scholars some of the elements of mechanical skill, by whose final application so many of them must by and by earn their daily bread. The term industry, as applied to manual labor, is far too large to be adequately comprehended under any use of carpenters', machinists', or blacksmiths' tools. These are but portions of a vast field, which only a great number of special schools could make any pretension of properly traversing. But it is possible to meet some of the complaints which are so frequent, that the public education is so exclusively intellectual as to unfit the majority of youth for entering heartily into the ranks of manual labor, by directing certain pursuits of the school hour to the especial end of training the hand and the eye, so that, whatever the future occupations of the child, he shall not be utterly awkward and helpless in the everyday responsibilities of earning his living. Education may and ought to help youth to be self-reliant and "handy," as a mere bookish student is not likely to be.

SEWING IN GIRLS' SCHOOLS.

The eminent success of the sewing instruction in the girls' schools — a branch of school work for a long time looked upon with great distrust by most persons who had given any thought to matters of education — has afforded convincing evidence that it is possible to impart special manual skill without interfering with the established routine of study.

The teaching of industrial drawing, now pretty firmly seated among the essentials of instruction, is quite within the line of training for the practical life of the manual worker. And so those who have watched the shop work of the Massachusetts Institute of Technology, and the smaller experiment of the Boston Industrial School Association, in teaching boys the manipulations of a few varieties of mechanics' tools, from which training some have been known to go into successful positions in trades, have continued to feel, notwithstanding the disapproval of their plans by the money appropriating authorities, that it would be no unwise venture to devote a small portion of the week in a few boys' grammar schools to an experiment of using hammers, saws, chisels, and like tools, under a competent instructor, with the design of enlarging the work as fast as its smaller operations should be shown to be of advantage.

A proposition of this sort, a few years ago, was heartily welcomed by some of the most sagacious teachers, as promising much good, while presenting few disadvantages.

NEW BEDFORD.

The annual report of the school committee of the city of New Bedford, Mass., comprises the several reports of the chairmen of the sub-committees, each having special supervision over a particular grade of schools, and the annual report made to the committee by the superintendent of schools, Mr. Henry F. Harrington.

The following extracts are taken from the two reports for the year 1881 and for the year 1882. These reports show, on the part of the committees—the grammar school principals—whose reports to the sub-committee are printed in the report of its chairman, and on the part of the superintendent, an active and intelligent interest in all matters relating to the welfare of the schools.

The topics germane to the subjects we are here considering are "The progress of drawing in New Bedford schools in ten years"; "The excellence of the public school art exhibit in 1881"; "The true aims of education"; "Object lessons"; "An attempt to discard useless details in the studies taught, and to retain only essentials, thereby gaining time for drawing and other industrial training"; "A proposed two years' course of practical instruction in the high school, designed for those who cannot remain four years"; "Drawing"; "Compulsory laws"; and "Industrial education." These are discussed with unusual vigor and fullness.

Drawing is taught by the ordinary teachers, under the supervision of Mr. A. Cumming, a special teacher of drawing, who receives an annual salary of $1,650.

EXTRACTS FROM REPORTS—LETTER OF PRINCIPAL WOOD.

In the report for the year 1881,* Mr. Allen F. Wood, principal of the Fifth Street Grammar School, in a letter addressed to I. S. Cornish, esq., the chairman of the committee on grammar schools, states that he has been in charge of that school for ten years, and gives, at some length, an interesting résumé of the history of the school for that period. In these ten years 1,900 pupils in all have attended the school; of these only 462 have completed the full course and graduated. His remarks on music and drawing are quoted at length:

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*Annual Report of the School Committee of the City of New Bedford, together with the Superintendent's Annual Report, for the year 1881. New Bedford: E. Anthony & Sons, city printers. 1882. pp. 108.

Music.—New Bedford was one of the first cities in the Commonwealth to make provision for the teaching of music in the public schools, and when I came here, ten years ago, it had been so long and so thoroughly taught that the readiness of the children to read music was a surprise to me. Great pains have been taken with the instruction in this branch to the present time, and it is not too much to say that the condition of the music in the school is in even a more satisfactory condition than ever before. The influence of the music in the school as a civilizer and refiner can hardly be overestimated, and the citizens of New Bedford can take a just pride in the encouragement they have so long given to the development of a musical taste in the children of the public schools.

Drawing.—I must also say a word about the drawing. There is no department of our work in which there has been so great an improvement as in this. The ninth grade can now do a more satisfactory and valuable work than the fifth could do ten years ago, and the fifth can do a work that is far superior to anything done in any of the schools of the city before the present movement began. Indeed, the excellency of the work done has attracted attention abroad, and given to our schools an enviable reputation. The importance of this department in our school system is shown by the demand of our manufacturers for the best pupils in drawing and designing, and the board, in my opinion, is justified in all reasonable expenditures for the further development of this art.

REPORT OF COMMITTEE ON DRAWING.

The following is the report of the committee on drawing for 1881. It will be noted that the fact that a large number of boys and girls have obtained employment by reason of having become proficient in this study at school is clearly stated:

In the Annual Report of Industrial Art Education in the State of Massachusetts for the year 1880, we read, under the head of awards: "New Bedford.—For the display in all grades, both of drawing and industrial art, excellent."

To our minds that one commending word meant very much, and we awaited with deep interest the verdict of the judges the present year. We knew that the same skilled teachers had guided the trembling hands of the children in the primary schools, and that the result was in no respect inferior to any previous year; and we thought the other grades had made better progress than ever before.

We had considered ourselves complimented when we were allowed to occupy a place in the Massachusetts Charitable Fair in company with the drawings of the normal art school; but when weeks passed and no word came to us either of criticism or approval from the judges whose praise had been so cordial in former years, we began to fear that our chief merit consisted in the ability to fill a place. At length, impatient that the judges did not seem inclined to notice our exhibition, we decided to write to Walter Smith, State director of art education, and to C. C. Perkins, chairman of the board of judges, inviting remarks, either favorable or otherwise.

LETTER FROM PROF. WALTER SMITH, STATE DIRECTOR OF ART EDUCATION.

In due time a reply came from Mr. Smith, and in justice to our schools we have deemed it advisable to quote very fully from his letter.

In answer to our complaint of lack of notice, he goes on to say: "I am sorry that no notices have appeared this year, either of the New Bedford or the normal art school exhibit in drawing, in any newspaper I have seen. Both exhibits were, however, the best of their kinds ever made in this or any country. New Bedford has reaped the advantage and distinction of trusting a teacher long enough to give him the opportunity to develop the subject of drawing in its schools from its first stages onward and upward. Much of this success is due, doubtless, to the broad and scholastic views of the superintendent, who from the first has been a consistent and strong advocate of this element of practical education in the school room."

After a tribute of praise to the school committee, Mr. Smith continues to say: "I need not praise Mr. Cumming's work. It has spoken for itself more eloquently than I can. Yet I should like to bear an independent testimony to the fact that from the happy conjunction of all these good things, superintendent and school committee, New Bedford has earned for herself the right to say that in her public day schools the subject of industrial drawing has been developed more practically and more generally successfully than in any other city. 'Honor to whom honor is due.' It is sufficient for me to see that it belongs to New Bedford, and a great gratification to me to say so; and this I do not without a knowledge of the subject and its developments, which has not been acquired hastily nor in a corner."

IMMEDIATE EMPLOYMENT SECURED BY PUBLIC SCHOOL GRADUATES WHO CAN DRAW.

After so hearty commendation from so able a source, any word from your committee seems superfluous; therefore, with the simple statement that within the past two years nearly three hundred boys and girls educated in our schools have been employed in the establishments of our own city which demand artistic skill, and with a few words in relation to the evening drawing school, we close our report.

We are still of the opinion that the best interest of the public will never be served while that school continues to hold its sessions in the high school building. And we maintain that, however earnest our mechanics may be to obtain instruction in their line of employment, they will always be slow to attend school in any building, however commodious, so far from places of general business and amusement.

Respectfully submitted, in behalf of the drawing committee.

B. B. WINSLOW,
Chairman.

In the report for 1882,* as in that of the previous year, the committee on drawing state that many former pupils of the New Bedford schools have readily found employment, owing to their skill in drawing acquired at school. They speak of the improvement of the quality of the drawing with each successive year, as demonstrating the capacity of the regular teachers to teach this in connection with the other studies; they note, as an interesting experiment, that in one school flat copies have been wholly discarded; they suggest that the elements of geometry be taught in the last year of the grammar schools, because of its value as a preparation for the study of drawing and the mechanic arts.

As the year passes in review, we pause to consider if we can make any new statement or advise the pursuit of any new course, and we find ourselves thrown back upon a simple narration of facts as they now exist, only inviting the public to judge of the worth of the study by its results.

The same efficient teachers have from year to year guided the observation, eye, and hand of our pupils, and how thoroughly and profitably they have done their work the large number of persons employed in our manufactories because of their skill in drawing will attest.

As has been before stated, the teachers in the primary schools, with untiring patience and skill, have trained the children under them to such a degree that they are able upon entering the grammar schools to comprehend the instruction and carry out the ideas of the drawing master. For the past two years, however, the high and grammar schools have included so many classes that it became necessary to add the care of drawing to the other duties of the teachers of the two lowest classes in the latter schools. That each year pupils in our schools obtain greater proficiency proves that their early training is delegated to no unskilful hands. We feel that great praise is due to the teachers of those classes for the cheerful manner in which they have accepted the task of teaching an art heretofore wholly under the care of a specialist.

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* Annual Report of the School Committee of the City of New Bedford, together with the Superintendent's Annual Report, for the year 1882. New Bedford: Mercury Publishing Company, city printers. 1883. pp. 105.

It has been deemed advisable to test the French method of drawing from models and nature entirely, instead of from flat copies, and one of our schools was selected to try the experiment. So short a time has elapsed since its inauguration that we are not yet prepared to report upon it. We have always found that the plans of our instructor tended to the improvement of our pupils, and we believe the new departure will prove no exception to his usual good judgment.

The evening drawing school is held in the same place as for the past three years, in the basement of the high school house; and has fortunately been favored with the same instructors to carry out their plans from year to year. A systematic course has been mapped out, and the scholars, as far as their education will permit, are following it

In this connection we would repeat a former suggestion, that somewhere, either in the last year of the grammar school or in the early part of the high school course, the elements of geometry be so pursued as to enable boys wishing to become mechanics to make a better use of their time in the evening drawing school than they can now do.

During the winter of 1881-'82, although there were several stormy nights, the average attendance was twenty-one.

In conclusion, we would say that we believe our schools in the art of drawing will sustain their usual high reputation among the schools of the Commonwealth.

In behalf of the drawing committee:

B. B. WINSLOW,
Chairman.

EXTRACTS FROM THE ANNUAL REPORT OF H. F. HARRINGTON, SUPERINTENDENT OF CITY SCHOOLS, FOR THE YEAR 1881.

In the superintendent's report for 1881, which fills 41 of the 108 pages of the pamphlet, much attention is given to the kind of education recognized in the public schools — to the object of education — that it is not all comprised in ability to memorize, or in what can be shown by a formal written examination, and, as the outcome of his argument on these points, he urges the formation of museums of objects illustrative of the studies taught in the grammar schools.

He closes by claiming for New Bedford the origination and introduction of many admitted reforms in the system and studies of the public schools; almost reluctantly, as it would seem, conceding to Boston the importation of Walter Smith and the introduction of industrial drawing; and concludes with a lively description of a scene illustrative of the opposition at first encountered by all reformers.

WHAT IS EDUCATION?

"The primary principle of education is the determination of the pupil to self-activity."—Sir WILLIAM HAMILTON.

First among these guiding principles is the one here formulated by Sir William Hamilton. Self-activity — the power of the pupil to think in connection with every topic that is brought to his attention in the course of study, and the habit of thus thinking—is the object of education which to true appreciation dominates all the rest. Supreme as it is, however, it is perhaps the least recognized of all the governing forces of the school room, not only by tho time servers who have no principles at all, but by multitudes of teachers who profess to be adepts in their vocation. To load the memory with facts and cram the intellect with knowledge is the ruling purpose. The text books bristle with facts, and memoriter task work is the solicitous imposition of the teacher and the passive stint of the pupil day by day. The noblest triumphs of a school room thus controlled are merely feats of memory.

This is not education. It were to degrade the term thus to apply it. The acquisition of knowledge is indispensable, but it should always be held subsidiary to the endeavor to arouse the pupil to a thirst for knowledge, and to induce and confirm earnest habits of investigation and acquirement. When Emerson said, in his sententious way, "I do not care what you may study," he did not mean to disparage the acquisition of knowledge; he only meant to indicate how far superior to any schedule of subjects of study is the ability of a right minded, well furnished teacher to develop the powers of the pupil into free and vigorous activity.

MERE MEMORIZING OF TEXT BOOKS WORTHLESS.

A few words just here on an important point in reference to the value of text books, although it is one on which I have expressed myself again and again in previous reports. There are those who have an aversion to much oral instruction, and insist on a close adherence to the text books, because of the superiority of the information contained in them, carefully prepared as they have been by accomplished experts, to anything which the teacher can extemporize as a substitute. This is a sound argument abstractly considered. But this is one of many instances in which abstract wisdom turns out to be practical foolishness.

No matter how good a lesson book may be, how clear its statements, sensible its reflections, and lucid its explanations, very few of an ordinary class of pupils, when set to learn it, bring any mental eyesight to bear on its subject matter, or try to melt it down in the crucible of their own thought. It is foreign to them, and it will remain for eign, except so far as their memories coldly acquire command of its phraseology, until it has been illuminated by the teacher's hints and explanations.

An accomplished teacher has said: "I have had a good many pupils, first and last, most of them private pupils, and I cannot remember one who was intelligent enough to understand a plain rule in arithmetic or a plain rule in grammar from the text book."

I have enlarged on this topic because it is time that our teachers, one and all, should be alive to the comparative worthlessness of any process of elementary education which does not aim, above all things else, to train the minds of pupils to think, and to empower them to give fluent and accurate expression to thought in speech and writing. To do this, to habituate its pupils to subject the passing topics of study to intelligent reflection, independent of text books limitations, and meanwhile to furnish them with available vocabularies, so that their mental activities may never lack the means of free and full expression, is certainly the paramount function of a public school, or of any kind of school; and it is full time that the importance of the traditional methods of study to effect this priceless endowment, through their monotonous lesson learning, the committing to memory, day after day, of no end of rules, definitions, technical terms, and isolated facts, should be clearly and effectively demonstrated.

PROTEST BY GOVERNOR LONG.

Governor Long drew in vivid colors the shameful picture of youth defrauded of their rights by that old cast iron system, in his speech at the dedication of the Boston Latin School House. One pregnant climax should be quick in every thoughtful mind, and I will quote it at some length. The italics are my own.

"Be it remembered that the one object of education, forever and now, is not to make the mind a storehouse full crammed, not to dissipate it in the shattering endeavor to grasp all knowledge, but to enable a man, whatever his faculties or resources, to command, to use, to apply them to the full—if he lift a hammer, to strike the nail on the head—if he cleave a log, to strike it in the very centre—if he argue a cause, to drive straight at the heart and the understanding. Given this ability and the education thus to use and expand his power, and then the storing of the mind and the variety and scope of accomplishment will take care of themselves. * * * Command of words, mastery of language, are not more the distinction of Webster and Burke than of the most brilliant speculators in mining stocks, or of the head man in a New England village. *And yet how painful and pitiful is the daily spectacle of some graduate of our schools, soaked with lessons, who cannot put a thought into words or a purpose into execution!"* * * *

SCHOOLS WILL BE SUCH AS THE PUBLIC DEMAND—THIS DEMAND OFTEN BASED ON MISCONCEPTION, FACILITY IN MEMORIZING BEING ACCEPTED AS PROOF OF MENTAL DEVELOPMENT.

Teachers are prone to regulate their schools—can they be greatly blamed?—according to the expectations and demands of those whom they are serving; and the great majority of parents estimate the proficiency of their children in school by what can be definitely measured through question and answer. The mental development the children are obtaining goes for little or nothing; and a premium is thus placed on the neglect of the noblest and worthiest function of the school. School authorities, too, are greatly in fault; they also defer to results of instruction which can be accurately measured. They institute and multiply forms of examination which inevitably exclude all play of reason and imagination on the pupils part, and bind down to him such evidences of attainment as the committee can test by means of a measuring line—that is to say, by memoriter lesson learning. And this emphatically endorses the idea that the only avenue to acceptable scholarship is the study of books; and leads to a system of cramming to accomplish a high degree of this yard stick and peck measure occupation.

An eloquent writer thus admirably sums up the merits of the subject: "The fundamental test of good teaching *is the presence of enthusiasm for knowledge in the pupil.* This absent, all the school machinery in Christendom cannot examine a child into a scholar. This present, all faithful instruction takes root, and the heart of every study is reached.

"The examination of teachers should ascertain this capacity to inspire enthusiam for study, to put the child on the right track, and to guide him, with the least strain, along the path to wisdom and power. And the success of every school is found in the increasing zeal of the pupils to press onward, and their increasing ability to grasp the central principle of every realm of knowledge encountered on the way. Grant that the average boy is a bad subject for inspiration, or anything but play and mischief; the angel hiding in his mortality is not to be detected by keeping him under a microscope, but by an awakening appeal and example from without, that shall summon forth his noblest powers to a new birth."

"I think that pupils are made too much to turn their attention to books, and the teacher is left a simple machine to study. That should be done away with among us. I shall never make you repeat what you have been told, but constantly ask you what you have seen yourselves."— LOUIS AGASSIZ.

The noble Agassiz, that prince among instructors, derived the lessons which he impressed on the minds of his pupils, for their guidance in study, from his own striking experience. He did not gather the materials for his masterly dissertation on the origin, growth, and motion of glaciers from the recorded observations of travellers, but, with pack on back, he mounted to the summits of the Alps, over precipices and pitfalls, often passing the night amid the snows, and carefully studied the bodily descent of the ice through the hollows of the mountains, from the perpetual snow reservoirs far up the heights, down to the desolate moraines which mark the glacial limits; he did not furnish his mind with the accurate information which enabled him literally to tell the entire structure of a fish from the sight of a single scale by poring over volumes of natural science, but he traversed the oceans, earth over, for the objects of his devoted investigation, and, clad in the sailor's pea-jacket, in fair weather and foul weather, out of the shallows and the depths he gathered visible materials for his invaluable works.

He told his pupils to go and do likewise; so only could they properly begin to learn or he begin to teach; and the spirit of these instructions not only affirms and emphasizes the principle stated by Sir William Hamilton, but furnishes us with other principles of instruction of indispensable importance.

I. "I shall never make you repeat what you have been told," he says; and we readily deduce the principle that telling is not teaching. This, indeed, is a statement of indispensable importance, and has a most comprehensive reach. The processes of telling and teaching are by no means identical; if they were, teaching would be a very simple performance.

A great many things, it is true, have to be told in connection with the legitimate work of teaching, and iterated and reiterated until they make a lodgment in the mind. Some portion, also, of what pupils may be told proves so interesting as to fix their attention, and they voluntarily and profitably appropriate it. But by far the greater part makes only an indistinct or imperfect impression, and either cannot be recalled or has been preserved only in such distorted forms as to be worse than nothing. And yet there is a great deal more telling than there is teaching going on in the schools at large.

Many teachers seem to suppose that the very spirit and substance of oral instruction consist in lightening the pupil's burdens by telling him everything that he ought to find out for himself—unravelling all his perplexities, surmounting all his obstructions, and cramming him with all manner of information. A prodigious waste of time and effort this—to say nothing of the fact that the pupil's mind, left by this process thus passive and inert, is weakened, not disciplined; its virility is all filtered out of it.

"Nothing is more absurd," says an eminent teacher, "than the common notion of instruction, as if science were to be poured into the mind like water into a cistern;" and Carlyle remarks, in his peculiar way, "To sit as a passive bucket, and be pumped into, can in the long run be exhilarating to no creature, how eloquent soever the flood of utterance that is descending."

The true teacher knows where to draw the inestimable division line between teaching and telling. It may be stated in a few words: Tell a pupil those points in a subject of study which are clearly beyond the scope of his reason or observation, but from that point onward, bearing in mind always the foundation principle that he is to be taught to think, throw him upon his self-activity.

Many have the idea that children cannot think—that is, carry forward a process of reasoning, is a strict sense of the term. This is altogether a mistake. Children cannot reason when, as in most frequently the case, they are exercised on problems and abstractions which are above the plane of their development. But go down to their level, and we find them reasoning in very effective reality. There is nothing more interesting than the brightness and originality of a class of little ones who have been habituated to think.

VALUE OF OBJECT LESSONS.

II. "I shall never make you repeat what you have been told," said Agassiz, "but constantly ask you what you have seen yourselves"—and a second principle which his words impress is, that the senses must be called into activity as essential media for the development of thought.

Yes, the senses are the avenues between nature without and the mind within. Words, however fit and excellent, are only the signs of our ideas; they are not actual conceptions. And though word pictures may be as vividly descriptive as words can make them, the imagination seldom succeeds in transferring them, with any degree of accuracy, to the mental canvas.

The pupil must see with his own eyes and hear with his own ears the objects which we desire to have him reproduce within him in imperishable outlines. Agassiz felt this great truth in all its power. He was indignant at the almost total disregard of it in the elementary schools of America—at the general dependence on words to furnish the mind with its conceptions. Those who were favored with intercourse with him on the subject of education know how eager he was to undertake a crusade against this evil, and throw the weight of his great name and effort in the attempt to root it out.

Every true teacher sympathizes with him right heartily; and perhaps there is nothing which more directly and strikingly distinguishes the true teacher from the counterfeit than this very matter of interest to use the senses as the normal avenues to the mind. The former is always earnest to illustrate the subjects of study with visible objects whenever it is practicable to do so. If they are not at his hand, he will obtain them somehow—beg, borrow, construct them. If they are in the woods, he will search for them there—in the fields or among the flowers, he will possess himself of them there—among the rocks, he will hammer them out. But the latter is content to remain "a simple machine of study," as Agassiz has characterized him; setting lessons in text books and hearing them recited; depending wholly on words for the furnishing and culturing of mind. Oh, this is so much the easier way! There is so little tasking preparation required! The class can study, be heard, be dismissed; and there is an end of it until the next day. And so it happens that even the tables of weights and measures are often taught without the slightest reference to the weights and measures themselves, and many a child can reel off the tables with voluable accuracy, who cannot tell you the difference between a pint pot and a quart pot or between an ounce weight and a pound.

APPEAL FOR MUSEUMS IN GRAMMAR SCHOOLS.

I conclude my reflections on this point with the expression of an earnest desire—not now for the first time brought to your attention—that the many excellent teachers in our grammar corps, who magnify their vocation and are faithful in duty, may be aided by the committee with means for the illustration of the subjects they teach. I plead for the systematic formation of museums of objects in the several grammar schools for this invaluable purpose.

When I read how munificently endowed in this respect the schools of a similar character are in many of the cities of Europe, and of the means at our command gradually to achieve the same consummation, I profoundly regret that I have not been able to kindle in the minds of the committee a sympathy with my sense of need and opportunity in this direction, and to induce the practical action which would prove so inestimable a boon.

I never could understand why the high school should be amply furnished with apparatus and cabinets for the illustration of its studies, and the grammar schools be almost utterly neglected in the same regard. Certainly, if either class of pupils must be left to form their mental conceptions from word pictures alone, those of maturer minds and broader knowledge of language might be supposed to be fittest to endure such neglect. And which are of most importance to the community—high schools or grammar schools? Which should be most carefully fostered and amply endowed?

I am aware that this proposition has encountered opposition in many quarters—sometimes in the form of serious argument, sometimes of ridicule. The chief point of opposition seems to be that there is a vast range of objects referred to in the studies, which, for one cause or another, it is impossible to gather into museums. This antagonism is puerile. The same line of argument would banish every description of illustrations from every kind of school.

The provision of such museums in some of the best of schools, and the regard in which they are held as one of their most essential instrumentalities, is a practical and conclusive refutation. True, we cannot put into such a museum either an elephant or a mountain, but we can put there a multitude of things to illustrate successfully many of the processes of nature in her various fields; the materials used in the arts and industries of practical life; the staples of commerce in their growth and manufacture; the wonderful ingenuities and practical attainments of mankind. Once created, such museums would become the special glory of our grammar schools.

ELEMENTARY EDUCATION SHOULD SEEK TO GIVE MASTERY OF THE TOOLS OF LEARNING.

"It is a cardinal principle that the primary object of elementary instruction is to give such a training as will secure to the pupils the mastery over the general instruments of future cultivation, such as language, figures, the organs of speech and song, the pen, and the pencil." (From the regulations of the Prussian Government for the schools of the nation.)

This is a sterling principle which is seldom more than vaguely understood by school authorities in the United States, and of a consequence is only imperfectly applied. I rejoice to say that by the school committee of New Bedford it has long been clearly understood, and only needs the aid of a little legislation to be comprehensively and thoroughly applied.

Yes, the intellect works by means of tools as well as the hand; and precisely as the first thing a mechanic has to learn is the skilful use of his tools, so the first thing to be enforced as a pupil's appropriate work is the mastery of the tools for intellectual attainment.

The tools of arithmetic are figures; and it is wretched mismanagement to push a pupil forward over a great variety of arithmetical topics, and into complicated problems, before he has acquired both accuracy and facility in the use of those tools.

The chief tool of drawing is the pencil; and until that can be deftly handled an artistic picture is an impossible achievement. So the chief tool of writing is the pen; and the grand dominating instrument for almost all other branches of study is language, our mother tongue.

It should be first in place, as it is first in importance. Not only are most subjects of study wholly dependent upon it as the sole medium to give them expression, but a thorough knowledge of it, and freedom in the use of it in speech and writing, constitute a good, sound education in themselves alone. Nothing, therefore, should be allowed to stand in its way. Nothing should be suffered to abridge the time and attention due to it, and subordinate it to other pursuits.

This is one of the few points on which we need further legislation, in order to accomplish our grammar schools for as perfect work as it lies within the province of school authorities to originate. Here I pause. I treated of this vitally important topic at length in last year's report. I enlarged on the supreme and inestimable value of a knowledge of language. I stated the fact that our teachers are ardent to devote as much time to it as it deserves, but that the amount of ground now prescribed to be covered by the various studies absolutely forbids.

I analyzed the composition of our text books of arithmetic and geography, and demonstrated, I think successfully, that in each of them there is a range of topics entirely foreign to a pupil's necessities in regard to either the acquisition of knowledge or of mental discipline, so that a portion of time might be subtracted from them without the slightest injury, and devoted to language, and I earnestly solicited legislative action by the board to authorize this beneficient transfer. * * *

CONCURRENT TESTIMONY AS TO PRESENT DEFECTIVE ARRANGEMENT OF STUDIES IN PUBLIC SCHOOLS.

I have good reason to assert the strength of my position; for, as the annual reports of school committees and superintendents for the year 1881 come pouring in upon me with every mail, one and all — I speak with almost literal truth — assert that an undue amount of time is given to arithmetic, geography, and grammar, and demand a remedy for the abuse.

The secretary of our State board of education occupies the same ground in his late report; and many teachers' associations, resolute on accomplishing a reform, have recently been discussing the best basis of change. Even the dogged conservatives, whose motto has always been "Let well enough alone," and who have gnashed their teeth at every proposition for better principles and methods of school work, seem in this instance to have conquered their prejudices and joined the corps of reformers; and I feel seriously disturbed lest some enterprising municipality should fairly get ahead of us and leave us in the vocative in this matter.

RECENT EDUCATIONAL REFORMS IN PUBLIC SCHOOLS OF NEW ENGLAND WHICH WERE FIRST BEGUN IN NEW BEDFORD.

There is more in this remark than a petty outburst of jealous competition. We have reason to be proud of our advanced position in educational affairs, and should be eager to maintain it.

It may not be a familiar fact to many members of the board, but there is not a single measure of school reform approved and extant to-day which was not first instituted in New England, so far as an organized system of public schools is concerned, in connection with the public schools of New Bedford.

The renovation of primary schools in methods of instruction and discipline, now prevailing everywhere; the introduction of supplementary reading books, on the principle that the capacity to read well is to be acquired only by reading much, and the corresponding abolition of the insane custom of limiting the exercises in reading, in grammar schools, to an elocutionary drill on a few declamatory and dramatic selections; the overthrow of the old notion that the rules of technical grammar and assiduous parsing will accomplish a pupil to read and write the English language with accuracy and facility; the abolition of the arbitrary method of advancing pupils from grade to grade in the grammar schools, and from the grammar schools into the high school, by means of set examinations and per cents., and the substitution, in chief, of the decision of the principals as to the wisdom of such advancement, consigning the examining processes, which were cramping and degrading the grammar schools, to the limbo of all things false and effete; the abolition of that ridiculous test of proficiency in spelling, an array of the most difficult words to be found in the loaded spelling book, to be spelled orally, the most of which the pupil would never have occasion to use in the whole course of his life, and the substitution of the two grand principles underlying this subject—first, that since correct spelling is always practically determined by the eye, rather than by the ear, most spelling lessons should be written, not oral, and, second, a pupil should be taught to spell progressively, according to the enlargement of his vocabulary and his use of it; all these reforms and improvements, and others still, which in combination have introduced a new, more culturing, more inspiring life into public schools, had their New England initiation in New Bedford.

The first manual of study prepared and adopted in New England was that of the New Bedford schools.

In one department of study we yield the palm to Boston. That city imported Walter Smith, and introduced the right philosophy and practice of industrial drawing. We had long been feeling our way, like Boston itself, towards this desirable consummation, but it was deplorably in the dark.

Therefore, gentlemen, you may justly be proud of the position of our schools; and since the reform now in question has arguments to support it as cogent as any which prevailed on your predecessors to institute those improvements which so greatly distinguish our schools, I respectfully trust that the same candid and enterprising resolution will be conspicuous now.

USUAL OPPOSITION TO EDUCATIONAL REFORMS CHARACTERISTICALLY ILLUSTRATED.

While on this topic I cannot refrain from paying a merited compliment to the spirit of the New Bedford school committee, in respect to the management of our schools, through all the years of my connection with the board.

When I study the history of education in New England, and remark how slowly, in general, reforms are instituted and abuses rooted out; how firmly old traditional usages are intrenched in the sympathies and prejudices of the people, simply because they are time-worn heirlooms; how reformers, however excellent their cause, have to feel their way with gingerly discretion, often rebuffed and perhaps disheartened; how slow school committees are to take vigorous action for better things, often actually going through the farce of recommending year after year what they have not the moral courage to put in force, I am proud to have been the executive officer of a committee which has readily accomplished so much. Allow me to relate an ancedote — not wholly disconnected with our own school affairs — which humorously exemplifies the dogged, unreflecting, unintelligent character of much of the conservatism which prevails.

A LIVELY DISCUSSION.

In the fall of 1867, some time after we had quietly carried into effect many of the reforms which I have noticed, I was to lecture in Springfield before the State Teachers' Association. I took for my subject those very reforms, discussed the necessity for them, and characterized as they deserved the wretched traditional principles and methods which they had displaced.

I knew very well that we had been executing quite novel performances for New England in instituting these reforms, and presumed that I should excite an animated discussion; but I had not the remotest thought that I was about to plunge myself into a hornet's nest of embittered prejudices, whose hostile manifestations would be wonderfully lively. I began my essay at 10 o'clock A. M., and spoke about an hour; and then began a discussion which, viewed in the light of subsequent events, may well be pronounced astonishing.

The attacks of the essay on the existing school methods were asserted to be unpatriotic, abominable; they were the best regulated, best conducted schools in the world. The positions of the lecturer were like the antics of a frisky colt, kicking like a foal, out of the traces. Parsing was pronounced the very foundation stone of a sound education, and we could not have too much of it; I am not sure that some one did not declare it to be the sheet anchor of our republican institutions. The assignment of jaw-breaking words as tests in spelling was eulogized as essential to the perfection of the study, and the existing methods of examination, it was insisted, could not be improved. Everything was lovely; and it was no less than sacrilege to dispute it.

So it went on; those sage, grave men, one after the other, easing their disturbed digestion by a steady stream of denunciatory talk. Another lecture was on the programme for that morning, but, to the infinite disgust of the lecturer, it was crowded out by the discussion, which continued until the adjournment for dinner.

More lectures to be crowded out—for the programme announced one to come off at two o'clock, another at three, a third at four; and the discussion of my essay was resumed immediately on reassembling, and was continued without intermission until the adjournment at nightfall.

All this while — that is the singular feature of the whole affair — there was nothing but eulogy of present things, and censure of any suggestion of change. Not a solitary spokesman of that company who was not hide bound, to all appearance, by the traditional routine.

Engaged in the discussion were Mr. ——, Mr. ——, Mr. ——, and many another — I remember them well! — superintendents and teachers of public schools, heads of academies and normal schools, who were then and have continued to be bright lights in the educational firmament. Their light shone at that time only on the old régime. They could see nothing to endorse in what I had said; they acknowledged no defects in the existing methods of school work; they scouted the idea of any basis for reform!

And now, to-day, the principles I then advocated prevail in the management of all good schools, and most of those very denunciators are enthusiastic in applause of them, wondering at the ignorance or perversity of those who do not heartily approve and adopt them; taking credit to themselves, perhaps, because of their freedom from the shackles of the old routine!

The human mind is a queer machine!

In his annual report for the year 1882, which fills 54 of the 108 pages of the pamphlet, Superintendent Harrington prefaces his own comments on the subject of drawing by a consideration of the suggestion made by Mr. Dunbar, chairman of the committee on the high school, that a practical course of two years be instituted in the high school for those who do not desire, or cannot give, the time for the usual literary course of four years.

He recites the influence of a merely literary training, and makes a valuable contribution to the discussion, while, in his remarks on drawing, he protests against Governor Butler's proposed limitation of the study, and offers positive testimony proving its economic value, showing that it definitely increases the wage earning capacity of the New Bedford scholars, who are taught at school to draw. Such positive testimony is of more value than much theorizing.

PROPOSED MODIFICATION OF HIGH SCHOOL COURSES.

The chairman of the committee on the high school, in his report, has suggested the propriety of instituting a two years' course of study adapted expressly to the practical needs of those who can remain in the school only that length of time. I rejoice in the opportunity to second his suggestion; and I trust that he will follow it up until he has brought itto pass. I hail with ardor any changes which will send our youth out into the world with a better outfit for its service than we furnish now.

Since it has become my duty to certificate children for labor in the mills, my dissatisfaction with portions of the compulsory laws has led me to an exhaustive study of the influence which education has exerted, through the ages, over the welfare and progress of society; of its agency as a champion of human rights; and of the confidence to be reposed in it as the safeguard of our free institutions.

This investigation has led me to a complete overthrow of some of my most cherished convictions. I am ready to "eat my own words" without a grimace; some of those words being what I considered, when I spoke or wrote them, as among the most truthful that had ever given expression to my thoughts.

For instance, I have given my heart, my voice, and my pen for years to the proposition that the paramount purpose of the instruction provided for our youth should be so to evolve and discipline their mental powers that they shall be equipped for the intelligent and vigorous application of those powers in whatever direction a demand may be made upon them; and that practical instruction of a specific character is therefore wholly out of place in our schools.

This is the theory which has been the most effective obstacle to the introduction of industrial training; and it has derived its strength chiefly from the prevalent idea that education (I use the word in its common acceptation as limited to mental culture) is the infallible medicament for all social ills, the relentless foe of arbitrary power, the life spring of our free institutions. This idea inspires the principles and determines the practice of the teaching in the great mass of American schools.

It is utterly and dangerously false, as I hope to show in another connection; and being now free from its controlling influence, I have become an earnest advocate of a course of instruction in every department of our public schools that shall be explicitly and directly practical. Therefore it is that I rejoice in the suggestion made by the chairman of the high school committee as a move in the right direction.

WIDESPREAD DISSATISFACTION WITH HIGH SCHOOL COURSES.

There is a widespread and growing uneasiness in the public mind at the present aims of high school education. It has found bold and threatening expression at times, through the press and the addresses of public men; and educators, steeped in old traditional ideas, have fought the ugly spectre with all the weapons they could command. But it would not down at their bidding. It is as rampant and menacing as ever; and if it is not fairly met, with ample concessions to its just demands, it will sooner or later assert itself with an undiscriminating fury which will whelm both good and evil in a common ruin.

Not long ago I had an interview on this subject with the upper class in our high school. It consists of thirty-five members, whose ages range from sixteen to nineteen years. I spoke of the prevalent charge that our high schools fail to produce a body of willing and diligent workers, and finally asked all those who believed in the truth of this charge, believed that the majority of those who graduate from our high schools are averse to manual labor and have no settled aim for the future, to rise. Nineteen of the thirty-five instantly rose; and when I called for those to rise who held opposite convictions, only *three* came to their feet. The rest had no definite opinions, which was equivalent to a vote with the majority.

This attitude of purposeless uncertainty on the part of so many intelligent youths, after a nearly four years' course of high school training, should certainly make us sad, and beget distrust of the work that the school is accomplishing.

I lately received a significant note from a very popular teacher in a prominent high school. He says: "I do not send my own daughter to the high school, because I do not think the high school is arranged to give them what they ought to know.

Do you think that a high school diploma ought to be given to a girl who has learned nothing about domestic economy, about hygiene, about elementary principles of the education of children, about the everyday elements of law, about ethics as applied to modern life, about ancient literature, simply because she has got a little Latin and French, some algebra, geometry, and the rest?

I have long held these notions, but am emboldened to confess my heresy by just having seen in a French journal the course of study in French secondary schools."

STUDIES TAUGHT IN GIRLS' HIGH SCHOOLS IN FRANCE.

He enclosed with his note a syllabus of the course of study in French schools to which he had alluded; and there I find that needlework is required three times a week during the whole course of five years; domestic economy (which means instruction how to cook and to manage household affairs) is a regular study; the French language and literature (the native tongue) and general history are very prominent; there is no Latin, and very little mathematics, and there is provision for instruction in the elements of law and ethics, of which my friend had felt the need.

This note, in a general way, voices a discontent which will sooner or later revolutionize the curricula of high schools. The theories on which they have heretofore been based, however philosophical and admirable in the abstract, are not adapted to the condition and needs of the great majority of those who are taught in such schools. That majority is made up of youthful representatives of workers, who constitute the bulk of American society, and they are themselves destined to lives of toil in one form or another.

The probable environments of their maturity, therefore, should forecast the provisions for the furnishing and discipline of their minds. The powers of the body, too, should receive careful attention; the senses be trained to acute observation, the hands to dexterous manipulation, the whole body to healthful development. Then, when school days are over, the consciousness of the possession of active powers, capable of immediate application, will fill the heart with gratitude for the possession of a sound and useful education.

High schools were never more firmly seated in the esteem of the public than now. Their value was never more fully appreciated than now. The only reasonable demand is for radical changes in their courses of study.

DRAWING.

> Governor Butler, in his inaugural address, when discoursing about education, advises that drawing in the public schools be confined by law to line drawing. He would exclude all the higher branches of the art.
>
> New Bedford protests against the injustice of such a restriction. We have various industries, the special beauty of whose products is derived from the arts of design and coloring and the creative effects of freehand skill.
>
> These industries give employment in the aggregate to hundreds of youth, whose emolument depends on the degree of their artistic proficiency; and there is not a boy or girl who exhibits special ability in drawing who is not in request long before the allotted time of schooling is over; all the more, and at far better wages, if school has been attended long enough to develop skill in the higher branches of the art.

VALUE OF DRAWING IN NEW BEDFORD SCHOOLS.

> Drawing, therefore, is the most directly practical of all the studies of our schools; and if such a law as Governor Butler advocates should be enacted and enforced, it would seriously abridge the means of livelihood of large numbers of our youth.
>
> They manage these things better in Europe. There, industrial schools are scattered about, in each of which the instruction is chiefly in the handicraft most in vogue in the region in which the school is situated, and which on that account the majority of its pupils are likely to follow.
>
> So far as drawing is concerned, our public schools are industrial schools, caring directly for the material interests of the community; and while the present demand exists for skill and attainment in this art, our school authorities will foster the study of it, and the State must not interfere to limit its range.

In his suggestions as to the education that should be given in the common schools, Mr. Harrington controverts the statement "that educated intelligence is the best antidote for vice and crime, and the surest safeguard of social order," and asserts that, so long as this is the general belief, no effective cultivation of character will be attempted in the schools.

He fortifies his position by quotations from Herbert Spencer, Emerson, President Eliot, of Harvard, and President Seelye, of Amherst; further, in refutal of Senator Blair's proposition "that universal intelligence never makes war," he cites Germany, the country in which intelligence is more nearly "universal" than in any other, as a notable instance to the contrary.

In opposition to the common idea that universal education is particularly favorable to a republican form of government, he quotes this passage from President Eliot's address at Baltimore:

> There are those who hold that republics can be saved by the general diffusion of primary education; but the most effectively despotic Government in Europe is the one in which this education is the most widely diffused.

Upon this Mr. Harrington comments as follows:

> The Government he refers to is that of Germany; and it is truly astonishing that the results of universal education, as illustrated in Germany, should not have been more closely studied and brought to bear on public opinion in this country, which is running wild on the subject.
>
> Germany has had compulsory educational laws in full operation for more than half a century. They have included successive generations within the scope of their influence.

The entire nation has thus long enjoyed the benefits of elementary instruction, and stands before us to-day demonstrating completely, in her Government, her laws, her general condition, her social life, the efficiency of diffused education. And what has it done for the people, to purify and uplift them, to give them clear views of right and duty and inspire a determination to enforce their rights and secure their liberties?

In reply to his own question, he proceeds to show that in Germany the whole business of each male citizen, for seven years of his life, is to be trained for war; and that the people submit to a Government which is the most tyrannical aristocratic military despotism known in any civilized country; and he further gives, in detail, such facts as show that among no people have social customs and the habits of individuals less of republican simplicity and equality, than among the universally educated Germans.

In the following extracts it will, however, be seen that he fully appreciates the worth and importance of American common schools as at present conducted, though at the same time he recognizes the possibility of their improvement, believing, as he does, that development of character, and elementary industrial training with a view to a practical knowledge of the mechanic arts, are of equal importance with such exclusive training of the mental faculties as has hitherto characterized the public schools of the United States.

His remarks under the topic of industrial education are quoted in full, as they embody an admirable résumé of the experiments in this direction now in progress in Massachusetts:

THE SUBSTANTIAL BENEFITS CONFERRED BY COMMON SCHOOL TRAINING.

It has not been my purpose to weaken interest in the cause of common school education. Its benefit so the individual and to society are too substantial and precious to be undervalued or decried. It enhances comfort, prosperity, happiness.

Educated labor is far more valuable and profitable than ignorant labor, educated homes are likely to be far more attractive than ignorant homes, and the social enjoyments of the educated are more refined and culturing than the rude pleasures of the ignorant.

"The state," says the threatening adage of the communist, "owes every man a living." We adopt with ardor the better wording, "The State owes every man an education." The opportunity for acquiring the elements of a sound, a helpful education should be placed within the reach of every child, and if it be neglected, the acquisition should be compelled.

I believe, moreover, in offering the higher education, without money and without price, to every one who craves it. I abhor that meanest of all sentiments in the mouth of an American freeman: "The laboring classes must not be educated above their sphere in life."

All I would subtract from the popular idea of education is the attribution of qualities which it does not possess. It has no inherent moral force whatever. That is the vital point. It is the obedient vassal of character. As the needle follows the lead of the magnet, so the intellect follows the lead of the sentiments; and if they be corrupt, mental education becomes only a promoter of evil. Free institutions are in greater peril from vicious education than from ignorance. The training of the sentiments then, is incalculably more important than the training of the mind.

What I would have this discussion lead to, therefore, is that in legislation for the schools, and in the spirit of their management, the present dominating influences shall be reversed, and when any new proposition is mooted, the first question shall be, not how will it affect the training of the intellect, but how will it affect the training of the character.

The change would be immense. It would produce modifications in school work to an extent of which we have no conception. It would teach that the discipline of circumstances, or of labor, is of far more value in certain cases than the discipline of books; and that the training of the muscles and the senses is indispensable as a means of rightly influencing character. In fine, to summarize the matter, it would induce the noble decision that, in conflicts between mental training and character training, as regards the appropriation of time, of effort, or of money to one or the other, mental training is always to give way.

INDUSTRIAL EDUCATION.

The truths I have presented find immediate application. Industrial education, when it meets with favor from the Board, will undoubtedly be initiated by the introduction of sewing into the schools. An earnest effort for this introduction has once already been made by members of the Board, and the subject has been considered and discussed.

The arguments adduced in support of the measure were: that the teaching of sewing is greatly neglected in a large number of families in the community, especially among the poorer classes; that this ignorance is one cause of the unthrift and ragged shiftlessness of many homes; that it prevents many girls who wish to go out to service from obtaining any except the lowest places; that it increases the cost of living to the poor, because they are not able to repair their clothing; that the untidiness, which is its consequence, breaks down self-respect; and that the discomfort, ill temper, and unhappiness which are thus generated are a greater injury than would result from loss of the amount of book learning which would be sacrificed to the sewing, and since the State has authorized the introduction of sewing it should be introduced.

On the other hand, and just as earnestly and honestly, it was argued that the sewing lessons would be a troublesome interruption of the regular working of the schools; that the loss of the time they would occupy to the mental improvement of the children would be serious; that, while the girls were sewing, it would be difficult to tell what to do with the boys; they also would lose the time, and therefore that the introduction would be inexpedient.

It was a direct conflict between character training and mental training, and the latter won.

What I have said opens up the whole subject of industrial education. This is the first instance in which I have brought it to the notice of the Board, for I have felt heretofore that the time was not ripe, but it is now full time to begin to think about it, at least, even if no definite project should be proposed; and I earnestly hope that no surrender to current prejudices will interfere with its candid and impartial consideration. For the main purpose of those who favor the introduction of an industrial element into the public schools is not to teach any special occupation, not to make seamstresses and mechanics, but to give the best possible training to the hand, the eye, and the mind—equip the mind more fully for the duties of life—and exert a direct and powerful influence over character.

SEWING IN GIRLS' SCHOOLS.

I shall content myself at the present time with a simple statement of the modes and extent of the hand work which is proposed for the schools, and the practical experiments which demonstrate its feasibility.

The only proposition in relation to the girls in grammar schools is that they be taught sewing systematically from their first entrance to their graduation. The time to be occupied is one hour of each of two afternoons a week. At the close of their school course they will be able, with this amount of training, to cut and make in simple forms every article of female apparel.

The experiment can easily be undertaken. It has been made in the schools of several of our cities—Boston, Providence, Cambridge—with the highest success. It has been so successful, its advantages are every way so manifest, that public opinion in those communities is enthusiastic in its favor.

The moral and economic reasons for the introduction of this hand work have been already presented in a condensed form. Still another may be added, that is directly in the line of mental education. Every sewing lesson is a positive object lesson of the most excellent description, because it combines so many points of instruction. It trains the sight to accuracy of observation, and the touch to nicety of manipulation. It calls the perceptive faculties, those of form, place, order, color, into active play and drill. It moreover puts the inventive faculties into profitable activity. It produces all these effects, in addition to those previously named, which alone should suffice to secure its introduction.

In the high school, needle work should be carried forward into its more varied and artistic branches. This may be defended on the same grounds which are advanced in support of plain sewing in the grammar schools, with only a broader range of application. I would have domestic economy, also, taught in the high school, as it is aught in the French high schools. Yes, I would have it practically taught, with all hat the expression implies. It would be a gain to the individual, a gain to the community, a relief to the monotony of abstract study. The French are manifestly right.

HAND WORK IN BOYS' SCHOOLS.

For the boys in the grammar schools and the high school both, there should be introduced systematic training in one or more of the mechanical arts. This hand-work has become a regular branch in the schools of Sweden, and there are nearly 500 schools in which it has been carried into practical effect.

An experiment of the kind has been made in Boston and Gloucester, of this State, with remarkable success. Some Boston gentlemen, taking their cue from Europe, subscribed money enough to fit up an unoccupied school-room for exercises in mechanical hand work. The boys of the Dwight Grammar School were the pupils, and the first attempt was thus made to graft a course of manual instruction on the public school system.

"The room was cleared of its furniture and supplied with work-benches and wood-working tools sufficient for 18 boys, to whom was also assigned a small amount of lumber. They were placed under the charge of a special teacher, a carpenter and builder, who exacted strict discipline, marked all the work done by the boys, and kept a record of the same. The daily programme was written out each day on the blackboard, and strict compliance with it required. Two classes were taught, each having two hours a week. As specimens of the work done, the boys were taught: to drive nails; to nail on line; to use different kinds of planes; to joint the square edges of a board; to use the gauge, the cutting and splitting saws; to use the chalk line and different kinds of chisels; to fit and nail boards together; to make a mortise and tenon and to fit them together; to use sand-paper, glue, etc.; to use the bit and bit brace, and various other operations in wood working."

Mr. Paige, the master of the Dwight school, reports that the experiment has been a complete success. The boys have been intensely interested in the work, never tardy, never absent; but, on the contrary have been frequently at work long before the time of beginning. And as to the effect on their mental study, it has seemed to stimulate their minds. It has made them if anything, better scholars than they were before. To quote his own words, "I consider that the results go far to prove that manual training is so great a relief to the iteration of school work that it is a positive benefit, rather than a detriment, to the course in the other studies."

This mechanical hand work for boys should be carried forward into more complex forms of art in the high school, just as the plain sewing of girls in the grammar schools is advanced to artistic needle-work in the high school.

In the language of President Francis A. Walker, of the Institute of Technology: "Every high school should have a well equipped mechanical laboratory, in which every young man in its walls, if not every young woman, should become an expert and accomplished manipulator of tools.

"The cultivation in this way of the perceptive and reflective faculties, the development and strengthening of the executive faculty, and manual dexterity, far more than compensate for any abridgment of the time devoted to linguistic or rhetorical exercises."

HAND WORK BY GIRLS IN SALEM NORMAL SCHOOL.

The quasi inclusion of the girl pupils of the high schools in this mechanical handwork reminds me of the fact that Professor Hagar, of the Salem Normal School, was so impressed by Mr. Paige's description of the remarkable effect of the hand work in his school in invigorating the brain capacity of his pupils, that he instituted the experiment in his own school, *in which all the pupils are girls.*

The girls engaged in the undertaking with alacrity, and followed it up with ever-increasing interest and advantage. It is giving them health and strength, and a command of their nerves and muscles which they would be likely to attain in no other way. When the time allotted to the hand work arrives, there they may be found busy as bees, hammering, planing, sawing, chiselling and all the rest, with devoted enthusiasm. I am glad they are learning to hammer. For any considerable number of women to know how to handle a hammer so as to strike a nail squarely on the head is a phenomenon seldom witnessed.

One grand effect may be derived from this mechanical work, if due attention be given to the accompanying course of mental study, viz: to polarize some of the branches now apparently aimless and thus make them doubly interesting and effective. Geometry, natural philosophy and chemistry, for instance, would be illustrated in the operations of the work-room, step by step, and reciprocally the work-room would dictate how to study these branches in the most judicious manner. To quote President Walker again: "The pupils should not be taught geometry and chemistry, as they are, so much as things geometrical or chemical."

The plant for this industrial work would be costly. Almost everything that is of great practical importance is costly. But the income of the Howland fund would easily supply the means for a single experiment, and its practicability and usefulness once demonstrated, I cannot doubt that ample means would be provided to graft the innovation fully upon the school system.

QUINCY.

In the very interesting report of the schools of Quincy, Mass., for the school year of 1880–'81* Mr. Sylvester Brown, the successor and disciple of Colonel Parker, whose peculiar methods are now known by the name of the town which was the scene of his successful experiments, gives an account of his first year's experience as superintendent.

In this report is the following brief statement of what a graduate of the Quincy grammar schools is expected to be able to do, and an admirable summary it is of what all graduates of the public schools in the United States should be able to do, if the common schools really accomplish the purpose for which they are designed.

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* Report of the school committee of the town of Quincy, for the school year 1880–'81. School Committee, John Q. Adams, William G. Sheen, Jason G. Witham, Edwin W. Marsh, Geo. L. Miller, Alfred Sampson. Superintendent, Sylvester Brown. Boston, H. T. Johnson & Co., 25 Arch Street, 1881. pp. 43.

WHAT A CHILD GRADUATING FROM THE GRAMMAR SCHOOL OUGHT TO HAVE LEARNED.

It is generally agreed among educators, that, to the exclusion of everything else, if necessary, a child, when he leaves a grammar school, should be able to read well and understandingly at sight ordinary reading, to speak the English language correctly, to write a letter in a neat, rapid, and legible hand; to perform any arithmetical problem he would be likely to meet in practical life, and to be able to think and reason.

Simple as this may seem to some, nevertheless patient labor is required for a long time to accomplish it. I think it may safely be said of our children that when they leave the grammar school they are able to do all this; and I may go still further, and say that those children who entered school when Mr. Parker assumed charge and are now in the "C" grammar grade, are able to do it.

Mr. Brown speaks with no uncertain sound as to the value of the study of drawing educationally, as well as practically, and shows its fitness for the public schools.

VALUE OF DRAWING TO SCHOLARS IN THE SCHOOLS OF QUINCY.

Quincy, having a population of over ten thousand inhabitants, is compelled by law to "annually make provision for giving free instruction in industrial or mechanical drawing."

I consider drawing one of the most useful studies that can be successfully introduced into our common schools. It is especially valuable to the children of this town, many of whom will be engaged in a branch of industry whose foundation is a knowledge of this art. From conversation with many parents, especially in the quarrying and stone-cutting districts, I find they earnestly desire that drawing should be a regular study in our schools.

It is argued by some that as aptitude for drawing does not come naturally to all children, and as every one cannot become proficient, it should receive no attention. As well may it be said that reading aloud is useless because all cannot become perfect elocutionists, or that the study of language should be abolished because all of our children will not become accomplished rhetoricians.

I quote a few propositions on this subject of industrial drawing in the public schools from the annual report on industrial drawing in the State of Massachusetts for the year 1879. "All children who can be taught to read, write, and cipher can be taught to draw. The true function of drawing, in general education, is to develop accuracy of perception and to exercise the imagination; thereby tending to produce a love of order and to nourish originality. Educationally, drawing should be regarded as a means for the study of other subjects, such as geography, history, mechanics, and design. In general education it is to be considered as an implement, not as an ornament. The practice of drawing is necessary to the possession of taste and skill in industry, and is, therefore, a common element in education for creating an enjoyment of the beautiful, and for a profitable practical life. Drawing may now take its legal place in the public schools as an element of, and not a specialty in, education at as little cost as any equally useful branch of instruction, with the prospect that at a future time as many persons will be able to draw well as can read and write well, and as large a proportion be able to design well as to produce a good English composition."

Hon. J. W. Dickinson, secretary of the State Board of Education, says: "In the minds of educated men there is an increasing appreciation of the value of drawing in the public schools. It furnishes the best means of training the observing powers and of the imagination, upon whose culture the activity of tastes depends; it enables the people of a State to run the race of life with the advantages that intellectual skill can add to physical force, and it elevates the morals by calling the mind to the intelligent study of the beautiful."

In Boston, all teachers must hold a certificate of ability to draw from Prof. Walter Smith; in Brookline and other places in the State, all teachers already in the schools have been provided with the proper instruction to enable them to pass the required examination.

Our teachers are not all educated up to this at present, and means should be provided whereby they can attain proficiency; then each teacher can go on with this as with any other study.

WORCESTER.

Mr. Marble, the efficient city school superintendent of the city of Worcester, Mass., gives in his report for 1881 a bird's-eye view of how drawing is taught in the public schools of that thriving manufacturing center.

The special teacher of drawing in that city is in fact also the superintendent of drawing, visiting all the schools in turn and inspecting the work of all the pupils.

THE SPECIAL TEACHER OF DRAWING.

As a rule, the employment of special teachers in the grammar and primary schools is not encouraged here. In advanced studies a "professor," who is a specialist in his own branch, may be useful. Not so with small children. They need a mature mind. capable of conducting their small advances, step by step, over the whole field of their mental activity, and not a mere specialist to urge them forward, perhaps out of all due proportion, in a single line. Think of a special teacher of arithmetic—up to ten!

Drawing and music, being less generally known than writing and spelling, are exceptions to the above rule. They are taught by special teachers, either weekly or less frequently, and the practice is done under the eye or the ear of the regular teacher,

The special teacher of drawing gives lessons in all schools above Grade 2. There are about one hundred and forty-five of these classes, and there are about six thousand drawing-books to be examined by this teacher every half year. In Grades 1 and 2 the teachers follow the printed directions.

Grades 7, 8, and 9 are visited once in two weeks; the others once in four weeks. In order to get time for these lessons and for the proper inspection of the books the teacher has to teach at New Worcester, Adriatic, and Quinsigamond Wednesday afternoons, in addition to the regular school time.

In the high school this study is optional; and about 125 pupils, one-third of the whole school, belong to the class which meets on Fridays in the forenoon. The time allotted to this study in the morning was so short, that last year an afternoon class, outside of the regular lesson, was organized. A class of fifty or sixty return to school Friday afternoons this year also for a lesson of two hours or more.

Shaded drawings from the object form a large part of the work in the high school. It is practical in character. A thorough system cannot, however, be insisted on owing to the mixed character of the classes—pupils from the four classes in the school often being obliged to draw at the same hour. Yet the work has been so far systematized that each pupil pursues a progressive line of study.

Many of the boys study mechanical drawing; and in this class all drawings are made directly from the object to a scale. Many details of machinery have been obtained without charge from some of the machine shops of the city. Numbers of this class return to the afternoon lesson, thus evincing their interest in a very practical study.

Lines are stretched upon the walls of the room, upon which all drawings are hung when completed, so that both pupils and visitors may see the work of the year up to any given time. At the end of the summer term the committee opened the rooms to public inspection three afternoons and evenings; and a large number of visitors saw the work of the year as it had been suspended when completed by the pupils. The work can be seen, so far as finished, any Friday; and it is proposed to exhibit the work of the year in June.

In the grades below the work is also very practical in character; in the lowest grades it includes sketches of simple objects; and from Grades 6 to 9 a large share of the drawing is object work. Pupils in Grade 6 learn to make working drawings—such as any mechanic could use—of simple geometric solids, showing plan and elevation. These things are introduced in such a way that the work becomes easy for the pupils. An effort has been made to lay out the work so that it can be finished by all without taking extra time; and thus many schools complete the work of the half-year from two to four weeks in advance.

MISSOURI.

ST. LOUIS.

The adoption of Kindergärten as a part of the public school system in the city of St. Louis, Mo., has already been referred to in this volume. The following statements as to admission to them, with suggestions as to the means by which the Kindergarten methods may be assimilated, by some modifications of the courses in the schools for older pupils, so that a regular progression, from the Kindergarten to the grammar and high schools, of the public school system may be possible, are found in the report of Mr. Edward H. Long, the superintendent of district schools in St. Louis.

The direct and logical relation of the Kindergarten courses to that training of the hand and eye which it is the object of industrial art education to develop is insisted upon by all Kindergartners.

PUBLIC KINDERGÄRTEN.

Under the rule as amended, children may be admitted to the Kindergarten—a half day only—at the age of five years; but no child under six years of age can be admitted to primary instruction.

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Thus far the Kindergarten has appeared to most individuals as a distinct organization, having no direct relation in its results to the work of the primary school. There is, apparently, in the course of study no recognition of the dependence of the latter upon the former.

The primary teacher begins her work with no reference whatever to what has already been done in the way of instruction in form, color, and number of the inculcation of sympathy and feeling, and of the exercise of free, creative activity. The desire now is to determine the relation of the efforts and results of the Kindergarten work to the primary work which does or should follow.

Whatever of the Kindergarten instruction that can serve directly as a basis from which to continue primary instruction in form, arrangement, color, number, and language, might possibly be formulated and exhibited in a course of study; but a complete continuation of the primary work, with reference to what has previously been accomplished, can take place only when the primary teacher has a knowledge of the aim and results of the Kindergarten.

HOW COURSES IN KINDERGÄRTEN AND LOWEST PRIMARY SCHOOLS MAY BE HARMONIZED.

It is thought that comparatively slight modification in the work of the Kindergarten, and a partial change in the course of study for the primary grades, would so harmonize these departments that they would no longer appear as distinct and disconnected systems, but would be recognized as constituting what in fact they really are, only different degrees of progress in the same process.

Form and number, as emphasized through the gifts and occupations, are presented in the primary school in the study of drawing and arithmetic, instruction in the latter being given through the elementary stage, with objects to aid in securing attention, and to lead to the correct application of the principles of thought as developed through the treatment of numbers.

The results of the exercises in the three instrumentalities of thought—gesture, work, and melody—as practised in the Kindergarten, should be an excellent preparation for instruction in reading and music, while the sentiment and feeling inculcated by the use of the Kindergarten songs are continued to some extent in the primary grades, through the reading lessons and through acts of obedience and kindness.

Songs of a similar nature might be continued in the primary grades, and valuable results in this direction might be reached through correct methods of securing discipline.

The Kindergarten games, which are intended to cultivate the sympathy of the child through the representation of the life around him, has no equivalent in our primary schools. These games show the relation of the individual to the whole—to the organization or institution.

The same condition necessarily exists in the general school organization, and may be used as a means for culture in this direction; but in the primary schools this idea is not emphasized by special representation. The Kindergarten stories representing ideal life should be followed by fairy tales, and anecdotes of men of high aspirations and noble deeds, thus leading to a course of reading and of literary study in the intermediate and higher grades.

OBJECT LESSONS COMMON TO BOTH FORMS OF SCHOOLS.

The cultivation of the senses, the awakening of the child's curiosity, and the stimulation of the desire for knowledge is continued in the primary and intermediate schools in various ways, and especially by means of the "object lesson" or "oral science lesson," and by awakening an interest in material nature and in the products of intellect through the various branches taught.

The highest form of Kindergarten work—that of stimulating the child to free creative activity by means of the occupations, and especially drawing and modeling—has its parallel in the primary and grammar schools, in inventive drawing, and in oral and written composition. Free activity in all matters relating to right and duty, and also in the acquisition of knowledge, should be the recognized principle in all school work.

The following is a schedule of the course of study in industrial art training, as given in the High School, St. Louis, Mo.:

First year: Drawing and music, twice a week.

Second year: Mechanical drawing, and may be permitted to pursue free-hand drawing as an extra study.

Third year: The pupils take free-hand drawing as an extra study.

Second year: History of art: Apart from the desirability of some general acquaintance with the fine arts, it is of consequence that one have as means of culture an elementary knowledge of the great artists, their achievements, and of the principles which underlie all art. * * *

Mechanical drawing: Aim to educate the eye and hand as well as to cultivate originality of design, so that the pupils may be enabled to become producers of work that shall at once be useful and artistic.

In free-hand drawing the pupils begin shading and outline work, with tinting in colors; take up historical ornament and consider its application to design. * * *

Drawing, free hand: Continue shading and outline drawing, with practice in coloring, as well as more advanced work in perspective designs. Mechanical: Building, construction, and machine drawings. * * *

Drawing, free hand: Drawing from casts and coloring from flat copies. Mechanical: Designs applied to some particular industry.

OHIO.

The following extracts from the special paper which appeared in the twenty-seventh Annual Report of the Commissioner of Common Schools for the State of Ohio, for the year 1880, are here inserted, not alone by reason of the value of this article as a contribution to the discussion as to the advisability of giving some kind of industrial art training in public schools, but also because the conclusions of an experienced teacher, qualified to speak authoritatively, are here given, as to the *kind* of instruction needed.

As a definite statement of practical utility this paper is worthy of careful study. Commissioner Burns thus introduces the paper:

As a contribution to the discussion of what branches should constitute the course of study in our common schools, Prof. W. S. Goodnough, superintendent of drawing in the Columbus public schools, prepared, at my request, a paper entitled "Drawing as a regular school study." I am satisfied that it is a valuable addition to this report, and my thanks are hereby tendered to the writer:

DRAWING AS A REGULAR SCHOOL STUDY.

The time has come when drawing should be more fully recognized as a regular and not a special study in the schools of Ohio, and should be pursued more extensively and more systematically. The National Association of School Superintendents, at their last meeting, in Washington, unanimously resolved that industrial drawing should form one of the fundamental branches of study in all grades. There is not a prominent educator who does not recognize its importance in influencing the character of our industries, to say nothing of its educational value. * * *

SHALL OHIO DEVELOP RUDE OR ARTISTIC INDUSTRIES?

Ohio, from her immense natural resources, is destined to become a great manufacturing State.

Shall she support only the ruder kinds of industries, taking the raw material and increase its value only slightly by its manufacture, or multiply it tenfold?

This depends entirely on her provisions for industrial education.

The pottery industry of East Liverpool, Ohio, is next to the largest in America. Shall they turn their clay into common table-ware only, or produce artistic wares that shall rival those of France and England? Shall we turn our iron into rails, stoves or machinery only, increasing its value from 10 to 100 per cent., or shall we by more artistic and skilled labor increase it many times more?

A plan for industrial art education as liberal as that in practice in Massachusetts, especially if supplemented by the establishment of technical schools, would quickly settle this question.

IMPORTANCE OF CORRECT TEACHING OF INDUSTRIAL DRAWING.

In most cities and larger towns in Ohio, drawing of one kind or another is studied. In many of these, however, some of the most vital portions of any system of industrial drawing are omitted entirely. In other places the study has not been introduced on account of a popular misconception of the subject. The old notion is prevalent that drawing is merely an ornamental study, an accomplishment, mere picture making. It should be understood that industrial drawing is of the most practical nature, and has nothing to do with pictures of old ruins, landscapes, etc.

Another popular fallacy that special talent is necessary to learn and to teach drawing has been a stumbling block. There is abundance of proof, however, that as large a number will learn to draw well as will do good work in arithmetic, grammar, or geography. In the majority of cases, the regular teachers who teach drawing most successfully are the best teachers of other subjects.

It being evident that drawing should and can be taught, it remains to suggest what should be taught and how the study can be successfully introduced.

Drawing should be taught in public schools, not alone for the training of hand and eye or the development of taste, but also as the only study we have which will tend to make pupils think more of industrial occupations and give them the necessary elementary knowledge to enter upon such pursuits. Whether all these requirements are met or not, especially the latter, depends on what is studied. Any course of industrial drawing sufficiently broad to meet their requirements must provide for the representation, construction, and decoration of any object or structure.

THE VARIOUS KINDS AND USES OF INDUSTRIAL DRAWING DEFINED.

The departments of study providing for these essentials are free-hand drawing, mechanical drawing and decorative design. * * * *

Mechanical drawing is the second department of our subject. Any system of industrial drawing for public schools should embrace in its mechanical department geometrical, projection, and perspective drawing, with the elements of machine and architectural drawing. The necessary implements are a cheap but accurate scale and drawing compass. For advanced work in high schools pupils should use drawing boards, T squares, and set squares.

Geometrical drawing is the alphabet of mechanical drawing. It teaches exact mechanical methods of dividing lines, finding centers, constructing various angles and polygons, etc.

Projecting drawing is the representation of objects to scale by plans, elevations, and sections. No subject is of greater practical significance. It is the kind of drawing referred to when we say: "He is a poor workman; he cannot even read a drawing;" *i. e.*, he cannot interpret nor understand it.

Pupils first learn to draw to scale in simple positions plans and elevations of a line, square, rectangle, cube, rectangular prism, cylinder, cone, and other geometric solids. Two or more objects in simple positions can next be taken, as a triangular prism upon a rectangular prism, giving a shape like a house. Common objects can then be undertaken, as a box, table drawer, desk, cabinet, etc. Pupils should measure the object, work to scale, and show all details necessary for the workman to have in order to construct it.

Mechanical perspective teaches mechanical methods of making pictorial representations, which are frequently necessary in mechanical drawing, and fixes more firmly the principles underlying the study of freehand perspective, or model and object drawing.

Architectural drawing is fully understood to mean, generally, the representation of plans, elevations, and details of buildings. Pupils can learn how to make plans and elevations of houses, giving most time to designing a convenient arrangement of rooms, and drawing the plans. Next they can learn how to represent the various joints used in framing, design various details, as window-caps, cornices, etc., and finally such a problem as the following might be given: Given a lot of land 40 by 100 feet, to design plans and elevations for a house of moderate cost, having a parlor, dining-room, kitchen, three sleeping-rooms, and a sufficient number of closets.

Machine drawing.—In this subject pupils would learn different methods of representing screws, V and square thread; nuts, bolts; parts of an engine, as fly-wheel, pillow-block, connecting and eccentric rods, stub, end, etc., and finally, perhaps, plans and elevations of a stationary engine.

The architectural and machine drawings should be lined in with ruling pen and India ink. Some details might be drawn in perspective.

There is no need of enlarging upon the importance of the mechanical department. It speaks for itself. It is one of the vital parts of any system of industrial drawing. It and design will do more to turn the attention of boys to mechanical pursuits than any other subject they pursue.

Mechanical drawing should be studied in connection with free hand drawing from the sixth school year through the high school. Advanced projection drawing, perspective, architectural, and machine drawing should be studied only in the high school.

The department of decorative design is the last to be mentioned, but not for that reason of less importance. It is intimately associated with both the others, and a less distinct department than either. In its practice use is made of both the others. From its importance, as the only study exercising the inventive faculties, and its immense practical significance, it is studied in connection with the other subjects from the lowest primary through the high school.

Pupils commence by making variations and combinations of simple geometric forms. Next they repeat these horizontally or vertically, making borders. Then repeat in all directions, forming all-over patterns for the decoration of flat surfaces. Next various details are given to be arranged in a given geometric form, and pupils are taught to conventionalize and use natural-foliage forms as material for designs. By the sixth school year pupils should make creditable designs from foliage conventionalized and adapted to fill given geometric spaces. By the seventh or eighth year pupils can make acceptable designs for carpets, tile flooring, chinaware, book covers, wall paper, and other articles, the designs being worked in pencil or ink. In the high school plants can be brought in and analyzed to discover the ornamental details that would be useful as material, and the designs may be worked in water color. The subjects for design might depend something on the home industries. Throughout the course great pains should be taken to inculcate the principles of good taste and design, and to give pupils a knowledge of the historical styles of ornament.

The necessity for instruction in the principles and practice of design is apparent when we remember that nearly every article made is more or less decorated, and frequently owes much of its value to this decoration. We at present import millions of dollars' worth of goods that receive most of their value from the art or design that has been bestowed upon them, and export almost none. A new occupation would be opened for girls, which is now almost entirely filled by foreigners.

The above course of study maps out substantially what is being done in industrial drawing in the public schools of Massachusetts and very many of our Western cities. Only one hour and a half to two hours a week is necessary. The regular teachers do all the teaching, except in the high school when the work there has become so advanced as to make a special teacher necessary. Until pupils now in the lower grades of school have passed through this course and become the teachers, our teachers will need special instruction in order to attain the best results.

In a city of ten thousand inhabitants and upward, a special instructor can be engaged to instruct the teachers, superintend the teaching of the subject in the primary and grammar schools, and teach in the high school. Several smaller towns can unite in engaging the services of such a person. Much can be done toward giving teachers the necessary instruction in county or city institutes, especially if the same person can be obtained for a week or more several consecutive years.

If superintendents prepare themselves to supervise this work, and a competent person is engaged to meet the teachers five to ten days during a year for instruction, good results could be obtained.

Boards of education are at liberty to make drawing one of the subjects of study and require teachers to be examined in it. When, however, drawing is made a regular subject for examination for all teachers, and when State normal schools are established and good teachers in this department provided, then Ohio will be in a fair way to develop this most important subject.

W. S. GOODNOUGH.

(See pages 43-49 of Twenty-seventh Annual Report of the State Commissioner of Common Schools of Ohio, for 1880.)

COLUMBUS.

A concise account of the progress of drawing in the public schools of Columbus, Ohio, is given in a previous chapter.*

The following extract from the annual report of R. W. Stevenson, superintendent of public instruction of that city, made to the board of education of the Columbus public schools for the school year ending August 31, 1883, is given, as one of the latest published expressions of the judgment of a competent educator upon the whole subject of instruction.

The relations of pupils and teachers are tersely stated, while, in considering the contradictory positions taken by some critics, the fundamental propositions underlying the whole discussion of the proper and possible relations of the public schools to preparation for the business of life are so set forth as to compel consideration.

As this is the twelfth successive annual report by this superintendent, and as drawing was introduced into the schools of Columbus some eleven years ago, his few words in reference to that study are of value as embodying the results of ample observation and experience:

> The family is the most effective and important educational institution. The principles taught here and the practices indulged in give an indelible color to the web of life. From birth to eighteen or twenty-one three-fourths of the time is spent in the family, and the training or no training will have a far-reaching effect upon the character.
>
> The responsibility for the training, good or bad, may be shared by the school or church, but it can never be shifted wholly by the family to these supplementary institutions. It is too much the fashion these late days for families to commit to the school and the church their children for secular and religious training, with the feeling that they are relieved from entire responsibility.
>
> Too much is expected of the public schools. The family may do the work of the school, but the school cannot and will never be able to do the work of the family. When in harmony, the one can supplement the work of the other. The five hours per day and five days in the week the children are under the eye of the teacher and bound to them by ties that are weak, are insignificant, as compared to the time and bonds which bind together members of a family. The instruction of a skilful and enthusiastic teacher falls on dull ears when he is not encouraged and assisted in the home circle. It is a fatal mistake for the family to expect or the school to undertake the whole work of instruction. This can be done only when the child is separated from the family, and the family and the school become one and the same. In such a case the school is wholly responsible. So far as the public schools are concerned this is impracticable.
>
> Taking things as they are, the public schools should not be held responsible for what they cannot do and for what the family fails to do. They cannot teach manual labor,

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*See Chapter VI, Part I, of this Report.

the family can; they cannot teach how to buy and sell, the family can; they cannot teach, in a practical way, how to care for plants and domestic animals, the family can; they cannot give practical lessons in household affairs, the family can; they cannot teach the principles and the doctrines of Christianity and inspire a faith and a trust in the great Founder as a Redeemer, the family can.

To every public school-house there cannot be attached a farm, a carpenter and machine shop, a shop for cutting, fitting, and sewing, different kinds of stores for learning the mercantile business, but, in a certain measure, the family may train the children in the direction of all these. The family, rather than the school, is the proper place for all forms of industrial education. Every week the child spends one hundred and thirty-eight hours in the family, and only thirty in the school; and yet there is a disposition to crowd into the thirty hours education, mental, moral, physical, industrial, and technical, and to hold the school and the teacher responsible.

To crown the inconsistency, the cry comes from these same intelligent advocates of the schools which prepare children for manual labor in and out of doors, and for the hundred different occupations, that the public schools attempt too much, and therefore do nothing thoroughly. The cry to do more than is now done, and at the same time be more thorough, comes from the same class of persons.

The would-be reformers tell us too much time is spent on reading, spelling, and arithmetic, and in the same breath charge superficiality. No experienced teacher doubts that there is not a better way, but who has founded it? Where is it in use? The time spent upon these branches seems to be too long to many earnest and progressive teachers, and they have been untiring in their efforts to find how to do more in less time, but as yet they have found no "royal road."

It takes a school composed of bright, mediocre, and dull children at least one year to master the principles and processes of decimal and common fractions, however competent and skillful the teacher. If there is any one who can give pupils of from ten to twelve years of age even a practical knowledge of these subjects in less than one year, he is the man who is sought the most earnestly and diligently.

Almost every community has found out by experience that the man who professes to give a practical knowledge of arithmetic in three months and a speaking and a writing use of a foreign language in twenty lessons is a humbug.

The backbone of the instruction to be given by the public schools is to teach the children to read intelligently, to write legibly, and to cipher accurately. The schools do much more, and do it well; but if the different forms of industrial education are to be added, girls should not become women till they are twenty-two, and boys should not become men till they are twenty-five. All, however, could be accomplished within the present limits of school life if the family, as an educator, did its duty as well as the schools do theirs.

The students of education are among the profoundest thinkers of this age, and from them and teachers who are working out new methods in the school-room will result improvements which will add to their efficiency.

The most recent methods of instruction which have been found by experience to be valuable are used by our progressive teachers. The spirit among them to find out the best methods of teaching and governing has been quite general. It is safe to say that year by year the instruction given in the schools is broader and more thorough.

The effects of the systematic study of the science and art of music in the schools for several years are seen in the Sunday schools, in the churches, and in every literary entertainment of which music forms a part. The culture of the voice derived from the singing exercises is alone worth much more than the cost of instruction. The great pains and skill of the superintendent of music in training the teachers and in the close supervision of their work in the school room have been largely instrumental in producing good results. There is no branch of study, when considered in all its bearings upon the future culture and refinement of the children, of more value than music. A school without music would be like a grove without birds and a garden without flowers.

That branch of study which will be used most in the industries of life is drawing. The work which has been done by the pupils in all the departments of our schools has been highly commended at home and abroad. The results have been achieved by the careful and thorough instruction of the teachers by the superintendent of drawing, who has labored faithfully and earnestly for success in his department. The teachers, too, have availed themselves of the opportunities within their reach for acquiring a knowledge of art beyond that necessary for their schools. There will be derived by the pupils from the art education they receive in the public schools, that manual skill and training of the eye which will be of no small practical value.

PENNSYLVANIA.

Mr. H. S. Jones, superintendent of public schools of the city of Erie, Pa., in his annual report for the year 1877–'78, thus sums up the results of the experiment of introducing the new study into the schools of that city.

The reader will perhaps have observed that in the early efforts to popularize this study, as recited in the historical sketch of such attempts previous to 1870, much stress was laid upon its utility as an aid in acquiring the art of penmanship. This has been, for the most part, passed by with a brief allusion by the modern advocates of drawing.

Mr. Jones, however, while showing fully that he appreciates the use and influence of the new study in many other directions, especially emphasizes its value as an adjunct to writing:

The kind of drawing made a legal study in several States, and largely introduced into schools during the last six and eight years, is by no means a "fancy study," but of all studies it takes rank as an educational force.

The old style drawing in schools consisted principally of picture-making from copies. The new is an intellectual study, educing the thought, ingenuity, and invention of the scholar in the line of art as applied to industrial pursuits. The influence of this branch is manifold; it especially develops: (1) observation; (2) forethought; (3) painstaking; (4) taste, imagination; (5) memory of forms; (6) power to discriminate—judgment; (7) ease and precision in the movements of the hand. No profession, calling, or business can be brought to mind that does not call for such mental and physical culture. As drawing is opposed to carelessness, haste, bad forms, and clumsy execution, it is a valuable aid in teaching writing.

The display of school work at the Centennial settled the question as to the influence of drawing on writing. The manuscripts from towns and cities that had placed drawing among the essential branches led off far in advance in the ease, neatness, and beauty of their penmanship.

Cincinnati, where, with an able corps of special teachers, drawing had been pushed by one of the most zealous and original art masters in the country, stood proudly in the forefront in fine manuscripts and specimen writing. This fact was noticeable. No good written work came from places in which drawing was not a regular study.

In London, during the organization of the present system, a test was made of a year's work by giving half of the writing time to drawing in certain schools, and it was found that the schools which drew excelled those in writing that did not, making a clear gain of the drawing in addition to better penmanship.

This study was begun in our schools in an unassuming way in November, 1873; the teacher had no experience in introducing it to teachers and scholars; by degrees a plan was developed, and the work has grown in importance and interest up to this time. The extra expense has been exceedingly light; the special teacher, for the first two years, served as a general assistant also, but, on the supposition that all her time was given to drawing, the cost the first year was $368, or 11.4 cents per scholar; the second, $466.38, or 12.6 cents per scholar; the third, $495, or 13 cents per scholar; the fourth, $100, or 2.5 cents per scholar; the fifth, $544, or 13.6 cents per scholar—an average of 10.6 cents for the five years.

Should proper deduction be made for general teaching service, the cost would fall below 9 cents per scholar.

The reason that the fourth year is but $100 is that Miss Halcott spent most of the financial year at the Boston normal art school.

Ten minutes spent in comparing the school work, at the office of the board, done before drawing was a regular study, and that done after it had been pursued sufficiently long for results, will show one what drawing has done for our scholars in writing, taste, and neatness.

Every one that has made the comparison has been struck with the marked improvement made in penmanship and the art of placing work on paper.

A false impression obtains that considerable time is required to excel in this branch. At the last Massachusetts display of drawings, New Bedford took the first premium, where the average time spent on the study was one hour per week, or twelve minutes per day.*

PHILADELPHIA.

If any community might, *a priori*, be expected to take exceptional interest in all that relates to industrial education, it is that of the city whose far-sighted citizens undertook, and successfully carried through, the Centennial Exhibition of 1876.

The following extracts from the sixty-second Annual Report of the Board of Education for the City of Philadelphia, for the year ending December 31, 1880, show the reasonableness of such expectations. The remarks upon the general subject, and the statement of the action of the committee having that subject in charge, are from the report of Hon. Edward T. Steel, president of the board:

The question of establishing a system of industrial education is pressing itself upon the consideration of our communities, and is conceded to be a problem which must be solved in the affirmative. Its absolute necessity is admitted, and its discussion centers in what manner and by whom it shall be given. Every community finds that a large portion of its youth has reached or is coming to manhood without a knowledge of a trade or special occupation, to drift through life dependent upon chance employment for a living.

RIOTERS RECRUITED FROM RANKS OF UNSKILLED LABORERS.

In the recent period of business depression, when the volume of trade was so limited that it did not furnish incidental employment to the unskilled, the most desperate and reckless of that class assailed in force some of the great business enterprises of the country. It is declared as a known fact that few of those who composed the alarming mobs had any knowledge of skilled employment, and it is equally true that during that season of business stagnation, as a rule, the regular trades and skilled occupations afforded a fair living support.

The circumstances which thus suddenly revealed the existence of a class so numerous and dangerous also demonstrated that our form of government will not of itself insure uninterrupted prosperity and peace, and that in the present condition of society the latter is dependent on the former.

The rapid growth of our country points with certainty to the future presence here of a dense population, among which the sharp competition for the means of subsistence must produce the same difficulties of employment which are now experienced during seasons of commercial revulsion.

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* Annual Report of the Superintendent of Public Schools of the city of Erie, for the year 1877-'78. Erie, Pa.: Ashby & Vincent, book and job printers. 1879, pp. 52.

There is no kind of ignorance more to be feared by our social and political institutions than that which knows no handicraft or special occupation upon which it may depend for the necessaries of life. When illiteracy is joined with untutored hands, a type of humanity is reached more dangerous than the uncivilized subjects of barbarous tribes.

LITERARY AND INDUSTRIAL TRAINING BOTH ESSENTIAL.

Intellectual and manual education should be regarded as equally necessary to the welfare and safety of the State, and should command equal opportunity of acquisition. Indeed, it seems more essential that the knowledge of a trade or occupation should be acquired before arriving at manhood. Intellectual training may cover every period of a lifetime.

The nations of the Old World, in the interest of their own preservation and for the public welfare, make education compulsory, and enforce three years' military training upon every male youth. The principles upon which a government is founded will vary the character of the means which it adopts to protect its future. Some of the reasons which relieve our Government of the necessity of vast military resources make it more dependent upon a well-educated population. The fact is becoming better understood, that unless this education embraces manual as well as mental training it will fail for want of thoroughness. Does not the exclusive attention which the public has given to mental training account in some manner for the false estimate which assumes a certain honorable distinction as belonging to one occupation, not inherent in others, which require as rare skill and tend more to human and material development?

If giving to industrial training the place it should have in a system of education would lead to a proper appreciation of the dignity and elevated rank which justly belong to the trades, an error would be removed which is injuring American communities. We build triumphal arches, in the form of degrees and diplomas, to mental attainment, and leave the trades, embracing the application of the sciences, unrecognized.

When the intellectual attainments which properly belong to the trades are made to lead into them they will rank first among occupations, as practical results do above theories and principles. The character of our Government should make us the leaders rather than the followers in combining manual with mental education.

IMPORTANCE GIVEN TO INDUSTRIAL ART TRAINING IN EUROPE.

Industrial education is receiving thorough attention in Europe, both as regards instruction in design for the improvement of the artistic character of mechanical productions, and also in manual instruction itself.

England, in the former field, has established in London what is known as the Kensington Museum and School, at a cost of $6,000,000. Five hundred thousand dollars are appropriated annually for the support of this institution and its branch schools and classes. In twenty years this school has had such an influence upon the art character of various classes of English manufacture as to raise them from the lowest rank to the highest artistic merit.

Similar schools have been established throughout Europe, while there is scarcely a town or city which has not its industrial school, in which is taught the special manufacture of the place—weaving, pottery, lace making, carpentering, glass making, etc.

The Institute of Technology of St. Petersburg, which was founded in 1828, exhibited at the Centennial Exhibition a complete set of illustrative models, showing every stage of manipulation in both iron and wood, from the crude material to the manufactured article. This exhibit attracted great attention, and contributed much information on the subject.

Through the interest manifested by the Boston Institute of Technology, the Russian Government presented that institution with a duplicate set of these models. The Boston school has since introduced this branch of instruction. A number of one-story structures have been placed about the college building, located in one of the best neighborhoods of Boston, in which are taught what may be termed the elementary branches of the trades, embracing moulding, turning, weaving, carpentering, smithing, etc. The students divide their time between this instruction and their books; undoubtedly each profits by the other.

Those who are not aware of the great difficulty at the present time of obtaining a good knowledge of a trade or skilled occupation are inclined to believe our youth are less worthy than those of an earlier generation.

Manual training is the most urgent question with which our communities have to deal. To what extent and how it may be connected with the public school system is the first phase of the subject to be determined. This can only be solved by such experimental efforts as a sense of its importance may suggest.

The board, in full appreciation of this subject, embodied in the course of study recently adopted a system of drawing, embracing only the principles which belong to industrial pursuits—draughting, designing, and decoration. This is an important and correct beginning. Drawing is the language of the mechanic arts. It is of universal application in them, and is in itself the training of the eye and hand.

In this instruction boys claim prominent consideration, but its treatment in our hands must include both sexes, and this suggests sewing as a branch of industry that may be introduced into schools with as much facility as many of the branches of study now taught.

THE STUDY OF SEWING SUGGESTED.

The material and implements necessary to sewing are consistent with the schoolroom. The time given to it would have little if any effect upon progress in the present studies, by reason of the refreshment to the faculties such a change of occupation would afford. Sewing is of universal use among women, and is recognized as a knowledge all should possess. It is not only capable of being taught in classes, but its acquirement would be facilitated by association of learners.

One of the great advantages of technical instruction is that it teaches the principles and best methods applicable to the subject taught. Speaking of the art of sewing, an eminent lady of this city says: "I venture to affirm none other would have so much influence in developing a woman's faculties and dexterity in the direction of manual employment; none other is so intimately associated with her needs, her nature, and her character."

If any industrial training is to be engrafted upon the public school system, sewing will commend itself for the reasons stated. It is a knowledge of great value and universal use, and entirely practicable to be taught in the class room. Apart from the value of a knowledge of this art, its introduction into our schools would be the beginning of a real recognition of the dignity of labor. Capable teachers are a requisite to the introduction of any study. In other school districts, where sewing has been taught with success, special teachers have been employed at first.

A necessary step toward the introduction of this handicraft into the schools would be to make it a branch of instruction at the normal schools, that teachers may be prepared to teach it. One teacher in that school capable of instructing in all branches of sewing, with cutting and fitting, could give the intelligent young women of the normal school a technical knowledge of this important art, and thus begin its easy introduction throughout our entire system of girls' schools.

Sewing, combined with the other branches of instruction of the normal school, would add to the honorable position now justly held by that institution. It is a proper associate of astronomy, zoology, and chemistry, and, joined with them, would in some degree express and maintain the standing due to industrial pursuits.

COMMITTEE ON INDUSTRIAL EDUCATION.

The committee on industrial education has been actively engaged in the consideration and encouragement of whatever pertains to this subject in connection with the schools. Its report of work in progress and recommendations will command your special attention.

Mr. Charles G. Leland has laid before the committee a system of manual training which he has been instrumental in successfully introducing into schools in England. The committee, with the approval of the board, is arranging, under Mr. Leland's direction, for an experimental trial of the practicability of this instruction.

The branch of industrial drawing, made a part of the course of study, was new to the schools, and found many of the teachers unprepared to instruct in it successfully. Messrs. L. Prang & Co., publishers of Walter Smith's system of drawing, in the most liberal spirit provided teachers of drawing to instruct the teachers of the city without charge. This instruction has been assigned to thoroughly competent hands, and has been given at hours which accommodate the time of the teachers. The opportunity has been very generally embraced, and the lessons will continue during the year 1881. The committee of industrial education has done everything in its power to encourage and facilitate the attendance of teachers at this instruction.

In consideration of the importance of this branch of education, the committee recommends that after the lapse of this opportunity for instruction the board shall appoint an examination in drawing, of all teachers, to the extent embraced in the course of study, and that thereafter no one shall be qualified to hold the position of teacher who has not passed a successful examination in this branch. The committee also proposes, with the approval of the board, to hold a public exhibition of the drawings of our pupils in the fall of 1881. See pages 14–21, Report of 1880.

NIGHT SCHOOL FOR ARTISANS—REPORT OF PRINCIPAL.

SIR: The eleventh annual session of the night school for artisans was opened on Monday evening, December 8, 1879, in the Central High School, Broad and Green streets, with 200 students. The registration of names for admission was made during the week ending December 5. The total number registered during the winter was 228. The faculty was constituted as follows: Prof. Z. Hopper, principal; and Profs. John Kern, D. W. Bartine, G. W. Schock, M. B. Snyder, H. Leffmann, and R. Riddell.

The average attendance in December was 161, for January 105, and for February 81. The school was open ten weeks, and was closed on Thursday evening, February 19, 1880. The qualifications for admission required that applicants must be not less than 18 years of age, and must be artisans or apprentices.

Four classes were formed in the general course, which included geometry, mechanical drawing, arithmetic, mensuration, chemistry, and natural philosophy. One of these classes was composed of men who had been members of the school during the preceding winters, and an advanced course was provided for this class. One class was formed for the study of architectural drawing, and another class for the study of chemistry and natural philosophy.

The school was open three nights per week from 7 to 9 p. m. The method of teaching was partly by lectures and partly by personal instruction.

The discipline of the school was very satisfactory.

The students were attentive and gentlemanly in their deportment to the professors and to their fellow-students.

The models, diagrams, chemical and philosophical apparatus belonging to the Central High School were placed at the disposal of the faculty for the illustration of their lectures.

The ages of the students were as follows: 132 of the pupils were from 18 to 21 years of age, 42 from 22 to 25 years, 25 from 26 to 30 years, 21 from 31 to 40 years, and 8 were over 40 years of age.

There were 193 of native birth, and 35 of foreign birth. There were 52 occupations represented, of which the carpenters numbered 33, and the machinists 32.

The records of the night school for artisans show that the largest attendance was secured during the months of October, November, and December, and that there was always a decided falling off in the average attendance during the following months. A number of the men have been present every evening, and others have not been absent more than one or two nights during the whole winter session. The names of these gentlemen were announced at the closing exercises of the school. It is to be regretted that so many who register their names at the opening of the school fail to attend with sufficient regularity, and thereby do not receive any benefit from the course of instruction.

Z. HOPPER, *Principal.*

JOHN SHEDDEN, Esq.,
Chairman of the Committee on Night Schools.

—Report of Philadelphia Board of Public Education for the year ending December 31, 1880. See pages 63–64.

It will be seen that there was the same difficulty, in this night school of Philadelphia, arising from irregularity of attendance, which proved so injurious to the Boston evening schools until effectually remedied by the adoption of a regularly graded two years' course of instruction, prepared by Director Smith, and the making regularity of attendance the condition requisite for enjoying the privileges of the school. President Steel also gives in his report the following report of the special committee to whom the topic of industrial education had been referred:

REPORT OF THE COMMITTEE ON INDUSTRIAL ART EDUCATION.

DEAR SIR: The rapid development of a refined public taste, as illustrated by the almost universal demand for graceful, unique, and beautiful decorative designs for articles of daily use or household ornamentation, has opened a channel for the profitable employment of hitherto unused or latent talent to an extent as surprising as unexpected, and has given to the study of drawing an importance in its prospective influence on the general good of society, as well as upon the welfare of the individual student, such as has not been previously accorded to it.

The ability to draw, and to do so with skill, has been discovered to be more than general, and it is a source of wonder to many who years ago passed the limits of the school-room without having had the opportunity of instruction in this branch, to find themselves in their maturer years possessed of this most desirable, and, if needs be, most profitable talent.

DRAWING NOW AN ESSENTIAL STUDY IN PUBLIC SCHOOLS OF EVERY GRADE.

The student of but a few years ago regarded drawing rather as an accomplishment than as a necessary attainment, or at best, to be acquired by those whose aims in life were purely professional or mechanical—something, in fact, of but little use beyond application in these directions.

Far from being a study approached with pleasure, drawing was a task in which the imagination of the student played but little part, and the best of his work was, in the main, mechanical in its narrowest sense; copies only of threadbare patterns held in stock by every school.

All this has changed. An educated public taste desired something new, and imitation gave place to originality. The change has been rapid, clear, and practical and exhibits itself in unmistakable earnestness and wonderful results.

The future is full of promise. New and higher attainments will be constantly demanded and progress assured by the permanency with which each successive step is maintained. Too much care, therefore, cannot be given to the study under consideration, and in the curriculum of every school intelligent graded instruction therein should rank with the other important branches taught.

In a community constantly extending its industrial interests there is a ceaseless requisition for the newest designs applicable to any or every branch of production. Trade competition seconds public demand in requiring of the manufacturer or producer the exercise of the most critical taste in the selection of the patterns he adopts to tempt the varied and ever varying preferences of the consumer of his goods; and following a steadily advancing standard he must, per force, claim progress in those from whom his artistic designs are obtained.

To educate a portion of this latter class for their important work is a part of the system of public education; and at no time in its history has it more faithfully endeavored to discharge that duty than at the present.

DRAWING IN PUBLIC SCHOOLS DUE TO PROFESSOR WALTER SMITH.

In this connection the committee acknowledge the impetus given to public instruction in drawing, through the efforts of the publishers of the "Walter Smith System of Drawing" to popularize it by offering to the public school teachers such instruction as will enable them to teach the children of their respective classes. The system having already been adopted as a part of the "graded course of instruction" in our schools, Messrs. L. Praug & Co. recognized the importance of properly and intelligently introducing it, and at a large expense established, in September, 1879, schools of instruction for our teachers, of whom about twelve hundred have availed themselves of the offered advantages under the admirable training of Miss Caroline West and her assistants. Distance, combined with scholastic duties, has prevented many from attending, but it is now proposed to increase the number of said schools and so locate them that these difficulties will no longer exist. The generous offer of Messrs. L. Prang & Co. will probably extend to the close of the year 1881, and the committee have by circular called the attention of the teachers to this fact, in order that all not qualified to teach, by previous instruction, may seize the opportunity without further delay.

EVIDENCE OF ABILITY TO TEACH DRAWING TO BE REQUIRED OF ALL PUBLIC SCHOOL TEACHERS.

In this connection it is suggested that, after ample time and opportunity have been given to the teachers to thoroughly qualify themselves, either by private or public tuition, intelligently to impart instruction in this branch of study, an examination of all the teachers be held therein, and that thereafter no certificate of qualification to teach shall be issued unaccompanied by a certificate of ability to instruct in drawing in the grade or grades for which said certificate is allowed.

TRIBUTE TO MISS CROASDALE, OF THE SCHOOL OF DESIGN FOR WOMEN.

The committee also express their appreciation of the attention and encouragement given by Miss Elizabeth Croasdale, principal of the "Philadelphia School of Design for Women," to the pupils of the public schools who from time to time have been appointed to scholarships in that institution.

SCHOLARSHIPS OPEN TO PUBLIC SCHOOL PUPILS.

By an arrangement entered into several years since with the trustees of the "School of Design," the Board of Public Education have the annual appointment of ten pupils of the public schools to scholarships of four years each in that institution. The pressure of applicants for these positions requires that certain rules shall be strictly enforced in their selection, and the committee have confined their appointments to such applicants as have plainly expressed a deliberate purpose to pursue studies therein taught for professional use and support.

The committee also notify said appointees that they are held responsible to this Board in all matters of deportment, attendance, industry, and results, and that the right of revocation for cause is reserved by said committee.

Under a resolution adopted in December, 1879, the holders of these scholarships are, semi-annually, required to furnish the committee with specimens of the work in which they have been engaged during the previous term, in order that their progress may be noted. This rule has resulted satisfactorily, and many excellent drawings, original in design, are in possession of the committee.

"The Pennsylvania Museum and School of Industrial Art" has also offered the Board the annual appointment of five pupils of the public schools to scholarships in that institution. They are for three years each. The offer having been accepted, the appointments thereto will be goverened by the same general rules as have been applied in the case of appointments to the School of Design for Women.

PROPOSED PUBLIC EXHIBITION OF PUPILS' DRAWINGS.

With the consent of the Board, the committee propose to hold, about November next, a public exhibition of the drawings of the pupils of the schools, and suggest that the Academy of Fine Arts be secured, if possible, for that purpose.

Such an exhibit is due to the public as a means of information of the progress made by the children in this study, to the pupils as an incentive to further advances, and to ourselves as a comparison of the relative proficiency of the sections.

SHALL SEWING BE TAUGHT IN GIRLS' SCHOOLS?

The subject of the introduction of sewing, as a branch of instruction in the girls' schools, has been brought to the attention of the committee. It is claimed that since the sewing machine has come into such general use there has been a marked decrease in home instruction in this essential domestic art.

In 1874, the school committee of Boston appointed a committee to specially consider this subject, and the following year put into effect the suggestions of a favorable report submitted in reply. The interest of the public in the matter has steadily increased. Sewing is taught in thirty-nine schools, and the annual reports of the committee refer in satisfactory terms to the beneficial results flowing from its introduction. Your committee are further informed that sewing has been introduced into the public schools of other cities.

Its success elsewhere proves the subject worthy of serious thought with us; but from the fact that the attention of the committee has been so recently called to its consideration, and that it is still under discussion and examination, they are not yet ready to suggest action thereon, but refer to it in this connection as a question of importance which may in the near future demand the attention of the Board. Meantime the committee propose to thoroughly investigate the subject, together with the modes of instruction adopted, the rules and limitations found available, and obtain such other information regarding it as will direct intelligent action in its treatment.

SCHOOL INDUSTRIES.

The subject of education in industrial work in the public schools has also engaged the attention of the committee, and under its charge a movement in that direction will be immediately inaugurated. Charles G. Leland, esq., a well-known public spirited citizen, who has closely studied this question during a long residence in Europe, and who is entirely familiar with the necessary details of such an experiment, will organize and give direction to its early steps. Mr. Leland is entitled to great credit for the warm and unselfish interest he has shown in the matter, and under his guidance the experiment of teaching the hands of our pupils useful and remunerative occupation may be expected to result most satisfactorily. Public opinion seems to demand such an effort on our part, and we should fail in the discharge of our full duty did we allow the present opportunity for trial to pass unheeded.*

On behalf of the committee.

WILLIAM GULAGER,
Chairman.

EDWARD T. STEEL, Esq.,
President of the Board of Public Education.

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*For account of result of Mr. Leland's experiment see extracts from his article in Century Magazine, appendix.

For further information, on same subject, see circular of United States Bureau of Education, No. 4, 1882.

RHODE ISLAND.

Mr. Leach, the city school superintendent of Providence, R. I., in his report under date of November 19, 1880, urges as an experiment the opening of a special class as the precursor of such an industrial or technical school as in his judgment is much needed in that city.

> In order that the very best facilities of practical instruction may be furnished to all classes, I would earnestly recommend that a room be opened in our high-school building for a class of pupils who might enter with lower qualifications and pursue those branches of study that specially fit them for the vocation they intend to follow when leaving school. Such a class would be the beginning of an industrial or technical school, which is now imperatively demanded to meet the increasing wants of the public. The pupils joining such a class should be specially and thoroughly taught in the elementary principles of the mechanic arts, the laws of trade, and in all kinds of mercantile and commercial transactions, and more particularly in drawing and its application to all the varied industries in which so many of our youth will soon be engaged. By the opening of such a room in our high school but little additional expense will be required. It will not be necessary to change the grades of our schools in the least, but will afford an opportunity to such pupils as wish to complete their education at an earlier period, and also to pursue such studies and such only as will best prepare them in the shortest time for their intended avocation. Were such facilities afforded, parents would be inclined more frequently than they now are to study the natural tastes and talents of their children, and would choose for them such a sphere of active life as would be best suited to their tastes and natural capacity. To educate a child without any specific object is to overlook the noblest aim of life.* (See Superintendent's Report, pp. 25, 26.)

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*Annual Report of the School Committee of the City of Providence. (Presented June 17th, 1880.)

STATISTICAL TABLES.

TABLE I.—*Statistics of art instruction for* 1881–'82; *from*

INSTITUTIONS AFFORDING ART INSTRUC

	Name.	Location.	By whom owned.	When founded.	By whom founded.
	1	2	3	4	5
1	School of Design of the San Francisco Art Association.	San Francisco, Cal.	The Art Association.	1873	The Art Association.
2	Yale School of the Fine Arts.	New Haven, Conn.	Corporation of Yale College.	1864	Augustus R. Street
3	Illinois Industrial University.	Champaign, Ill.	Illinois Industrial University.	*b*1870	The State
4	Art Schools of Chicago Academy of Design.	Chicago, Ill	Corporation of Academy of Design.	1869	The Academy
5	Art Schools of Chicago Academy of Fine Arts.	Chicago, Ill	The Academy	1879	Citizens of Chicago
6	Decorative Art Society, Instruction Department.	Baltimore, Md		1878	Citizens of Baltimore
7	Maryland Institute Schools of Art and Design.	Baltimore, Md.	Maryland Institute.	1848	Maryland Institute
	1. Night School of Design.	Baltimore, Md.	Maryland Institute.	1848	Maryland Institute
	2. Day School of Art and Design.	Baltimore, Md.	Maryland Institute.	1860	Maryland Institute
8	Lowell School of Practical Design. *c*	Boston, Mass	Massachusetts Institute of Technology.	1872	Trustee of Lowell Institute.
9	Massachusetts Institute of Technology, Department of Architecture.	Boston, Mass	Massachusetts Institute of Technology.	*d*1861	William B. Rogers and others.
10	Massachusetts Normal Art School.	Boston, Mass	By the State	1873	By the State
11	Schools of Drawing and Painting, Museum of Fine Arts.	Boston, Mass	The committee	1876	Permanent committee of citizens.
12	Art School of Smith College.	Northampton, Mass.	By the college	*g*1877	Trustees of College
13	Art Association, Drawing Classes.	Springfield, Mass.	The association	1879	E. C. Gardner, W. S. Shurtleff, William Rice, and others.
14	Worcester County Free Institute of Industrial Science.	Worcester, Mass.	By the corporation.	1865	John Boynton
15	Saint Louis School of Fine Arts, Washington University.	Saint Louis, Mo.	Washington University.	1874	Washington University.
16	Manchester Art Association.	Manchester, N. H.	The Art Association.	1871	William W. Colburn, F. French, H. W. Herrick, and others.

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a Expenses of school in excess of income from tuition fees met by funds of the Art Association.
b University founded in 1867, school of architecture in 1870, art gallery in 1874, school of design in 1876.
c This course of free instruction, open to both sexes, is provided by the trustee of the Lowell Institute, and is in the rooms and under the direction of the Institute of Technology.
d Date of founding "The Institute;" department of architecture established in 1865, opened for students in 1868.

replies to inquiries made by the United States Bureau of Education for this Report.

TION, INCLUDING ALL TRAINING IN INDUSTRIAL ART.

Purpose of institution.	Amount of endowment.	Income for last year.		Expenditure for last year.		
		Amount.	Source.	Amount.	Object.	
6	7	8	9	10	11	
Instruction in art..	....	$4, 512. 55	Tuition fees [g]....	a$2, 895 00 303 05	Salaries and wages.. Material for instruction.	1
Technical and critical instruction in the arts of design, painting, sculpture, and architecture.	$86, 000	5, 300 00 200 00 3, 000 00	Endowment .... Donations....... All other	6, 400 00 300 00 200 00 100 00	Salaries and wages .. Repairs, etc .... Collections .... Material for instruction................	2
To educate architects and industrial designers.	....	....	....	....	....	3
The founding and maintenance of schools of art.	....	....	....	....	....	4
Instruction in drawing, painting, and design.	....	5, 507 48 1, 653 34	Tuition fees..... Donations.......	$1, 200 00 247 00 5, 713 82	Rent, etc.. .... Collection and material for instruction. Salaries and wages..	5
Training in artistic industries.	....	....	....	....	....	6
The promotion of mechanic arts. Training in free hand, mechanical, and architectural drawing. Instruction in drawing, painting, and design	10, 000	3, 000 00 1, 752 42	State grant ..... All other sources.	2, 450 00 574 62	Salaries and wages... Material for instruction.	7
Training in practical designing for manufactures.	....	3, 000 00	The Lowell fund	3 000 00	Salaries and material for instruction.	8
Thorough instruction in architecture.e	(f)	....	....	3, 850 00	Salaries and wages....	9
Training school for teachers of industrial drawing.	....	2, 395 00 17, 000 00	Tuition fees .... State appropriation.	8, 615 54 4, 500 00 694 96	Salaries and wages .. Rent, etc .... Material for instruction.	10
Instruction in drawing and painting.	....	8, 000 00	Tuition fees and donations.	8, 000 00	Salaries and wages.....	11
Instruction in drawing and painting.	....	....	Tuition fees	....	Salaries, etc	12
To promote knowledge and skill in art.	....	388 00 872 00	Members' dues . All other sources.	30 00 1, 200 00	Wages............... Rent, repairs, etc....	13
Practical application of science and art to the industrial arts.	630, 000	22, 000 00 4, 425 00	Endowment .... Donations	24, 050 00	All purposes...........	14
Art education	....	1, 000 00 4, 000 00	Donations ...... All other sources	3, 000 00 1, 000 00 1, 000 00	Salaries and wages.. Collections .... Material for instruction.	15
To promote knowledge and skill in art.	....	260 00	All sources.	141, 23 107 29	Rent................ Collections	16

e Full courses occupy four years each.

f As this is only one of several departments of the Institute of Technology, it is not possible to make for it a separate financial statement.

g In 1880 the "art classes" became the "Art School," a fund having been given for an art building and collections.

TABLE I.—*Statistics of institutions affording art instruction,*

	Name.	Location.	By whom owned.	When founded.	By whom founded.
	1	2	3	4	5
17	The Free School of Design of the Brooklyn Art Association.	Brooklyn, N. Y.	Stockholders	1861	Stockholders
18	Cornell University, courses in architecture, mechanic arts, engineering, etc.	Ithaca, N. Y.	Cornell University	1865	State of New York and Ezra Cornell.
19	Art Students' League	New York, N. Y.	Corporation of members.	1875	Advanced pupils of the National Academy of Design.
20	Cooper Union Art Schools:				
	1. Woman's Art School.	New York, N. Y.	Trustees of Cooper Union.	1852	Ladies of New York
	2. The Free School of Art	New York, N. Y.	Trustees of Cooper Union.	1857	Peter Cooper
21	Ladies' Art Association	New York, N. Y.	The Association	1870	Mrs. Mary Strongitharm Pope and Mrs. Henry Peters Gray.
22	Society of Decorative Art.	New York, N. Y.	The Society	1877	Six ladies of New York City.
23	National Academy of Design.	New York, N. Y.	Corporation of Academicians.	1826	Artists of New York
24	School of Design, Vassar College.	Poughkeepsie, N. Y.	Vassar College	1877	The trustees
25	College of Fine Arts of Syracuse University.	Syracuse, N. Y.	Syracuse University.	1872	Syracuse University
26	School of Design of the University of Cincinnati.	Cincinnati, Ohio	City of Cincinnati.	1869	City of Cincinnati
27	Women's Art Museum Association.	Cincinnati, Ohio	Ladies of Cincinnati.	1877	An association of women.
28	School of Design, Ohio Mechanics' Institute.	Cincinnati, Ohio	The Institute	[e]1856	By the directors of Institute.
29	Columbus Art School	Columbus, Ohio	Columbia Art Association.	1879	Art Association
30	Toledo University of Arts and Trades.	Toledo, Ohio	Trustees of University.	1872	Jessup W. Scott, Susan Scott, and William Raymond.
31	Franklin Institute Drawing Classes.	Philadelphia, Pa.	Franklin Institute	1824	Franklin Institute
32	Art Classes of the Pennsylvania Academy of the Fine Arts.	Philadelphia, Pa.	Stockholders of the academy.	1806	71 citizens

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[a] Full courses occupy four years each. [b] The Sibley College of Mechanic Arts has an endowment fund of $30,000. The other courses are wholly maintained from the general fund of the University. [c] Derived from endowment of $150,000, and from rents of Cooper Union Building; whole income for 1878, $41,628.79; expenditure, $44,965.26. [d] All expenses pertaining to the occupation of the building are included in the general expenses of the Cooper Union.

including all training in industrial art, etc., for 1881–'82—Continued.

Purpose of institution.	Amount of endowment.	Income for last year.		Expenditure for last year.		
		Amount.	Source.	Amount.	Object.	
6	7	8	9	10	11	
Encouragement of art and artists.	....	....	Municipal grant. All other sources	....	Salaries and wages... Exhibitions, schools, etc.	17
Instruction in architecture, mechanic arts, engineering, etc. *a*	(*b*)	$15,015 00	All sources......	$15,015 00	Salaries............... Material for instruction.	18
To afford facilities for high art training and promote fellowship among artists.	$5,000	11,000 00	All sources......	....	Salaries and wages... Rent, etc.............. Collections............ Material for instruction.	19
To furnish to women free instruction in the arts of design.	....	....	Cooper Union revenues. *c*	10,835 37	Salaries *d*	20
Advancement of science and art.	....	....	Cooper Union revenues.	9,841 00	Salaries, etc..........	
To advance the interests of women artists and art students.	....	.... 50 00 637 33	Annual fees of members. Donations....... Other sources...	.... 167 49 530 00	.... Wages, etc........... Rent..................	21
Exhibition and sale of artistic and decorative work, and to afford training in many branches of artistic and decorative industries.	....	940 00 718 50 39,622 33	Members' dues.. Donations....... Sales, commissions, etc.	50 00 3,106 00 16,743 74 12,491 72 4,060 66	Material for instruction. Rent................. Salaries and wages... Cost of material for manufacture. All other expenses...	22
To advance art by public exhibitions and free art schools.	50,000	....	Endowment and exhibitions.	....	Exhibitions, schools, etc.	23
For instruction in drawing, painting, and modeling.	....	....	....	....	....	24
To afford instruction in all the fine arts. *a*	....	8,400 00	All sources......	7,900 00 245 00	Salaries and wages... Material for instruction.	25
To teach painting, sculpture, and carving, and for improvement in the industrial arts.	109 500	6,160 00 3,637 42	Endowment..... All other sources	7,100 00 2,697 42	Salaries and wages... Rents, etc............	26
To promote interest in the application of art to industry, and ultimately to establish an art museum.	....	3,626 39	Members' dues, donations, etc.	1,000 00 1,000 00	Salaries and wages... Rent, etc.............	27
Advancement of science and art.	....	....	....	980 00 175 88	Teachers' salaries.... Sundries for school...	28
To provide art instruction at the least possible cost to students.	....	*f*1,971 66	All sources......	1,785 00	Salaries, etc............	29
To promote knowledge in the arts and trades, and their related sciences.	250,000	....	....	....	....	30
The promotion of the mechanic arts.	....	....	....	....	....	31
To educate students of art.	8,000	....	....	*g*2,231 66	All purposes...........	32

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e The Ohio Mechanics' Institute was founded in 1828. *f* The rent of rooms was also donated. *g* This is directly for schools; much of the necessary expense is included in the general expenses of the academy.

TABLE I.—*Statistics of institutions affording art instruction,*

	Name.	Location.	By whom owned.	When founded.	By whom founded.
	1	2	3	4	5
33	Philadelphia School of Design for Women.	Philadelphia, Pa..	The corporation ..	1847	Mrs. Sarah Peter .....
34	The Pennsylvania Museum and School of Industrial Art.	Philadelphia, Pa..	Trustees..........	1876	Citizens of Philadelphia.
35	Pittsburgh School of Design for Women.	Pittsburgh, Pa....	The corporation ..	1865	Citizens of Pittsburgh
36	Rhode Island School of Design.	Providence, R. I..	The association...	1877	Women's Centennial Commission.
37	Art School of the Washington Art Club.	Washington, D. C.	The Art Club.....	1879	The Art Club.........

a The statement of income and expense of the Philadelphia School of Design for Women is for the year beginning January 1, 1881.

including all training in industrial art, etc., for 1881–'82—Continued.

Purpose of institution.	Amount of endowment.	Income for last year.		Expenditure for last year.		
		Amount.	Source.	Amount.	Object.	
6	7	8	9	10	11	
Thorough industrial art education for women.	....	*a*$6, 527 00 3, 000 00 5, 950 00 12, 000 00	Tuition fees .... State grant ..... Donations ...... Loans...........	$6, 408 42 3, 875 78 22, 421 25 1, 786 11	Salaries and wages .. Other school expenses Improvements to school building. Interest charges.	33
The development of art industries by thorough instruction in industrial art.	$5, 000	*b*053 00	Tuition fees	3, 002 46	Maintenance of schools.	34
Education in art...	....	1, 250 00 2, 138 71	Donations ...... All other sources	164 10 750 00 1, 960 00	Material .... Rent, etc .... Salaries and wages ..	35
Instruction of artisans in industrial art, also the systematic training of students in the fine arts.	2, 000	120 00 200 00 300 00 3, 600 00	Interest on fund. Donations ...... Members' dues.. Other sources...	4, 200 00 800 00 800 00 200 00	Salaries and wages... Rent................. Collections .... Material for instruction. *c*	36
Instruction in drawing and painting.	....	....	....	....	....	37

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b For general income and expenditure, see items in table of museums. *c* A large amount of material was loaned or given, amounting in value to $2,000.

TABLE I.—*Statistics of institutions affording art instruction,*

	Name.	Principal.	Value of building.	Number of studios.	Number of special rooms for study.	Conditions of attendance.	
						Age.	Other.
	1	12	13	14	15	16	17
1	School of Design of the San Francisco Art Association.	J. R. Martin, assistant secretary of association; Virgil Williams, director of school.			2	14 years	A satisfactory examination and tuition fees.
2	Yale School of the Fine Arts.	Prof. John F. Weir, director.	a$225,000	6	7	Over 15.	
3	Illinois Industrial University.	S. H. Peabody, PH.D., LL.D., president of university; Prof. Peter Roos, in charge of School of Art and Design.			5		Open to all students of the university.
4	Art Schools of Chicago Academy of Design.	J. C. Cochrane, president; Enoch Root, corresponding sec'y.					
5	Art Schools of Chicago Academy of Fine Arts.	N. H. Carpenter, secretary.	45,000	10	5		
6	Decorative Art Society, Instruction Department.	J. J. Jackson, secretary; Hugh Newell, director.			3		
7	Maryland Institute Schools of Art and Design.	James H. Bond, president; Carroll Spence, chairman committee on schools.	75,000	8	5		
	1. Night School of Design.	Hugh Newell, principal.			2		Membership in institute.
	2. Day School of Art and Design.	Hugh Newell, principal.			4		Tuition fees
8	Lowell School of Practical Design, Boston, Mass.	Charles Kastner			1		Proficiency in free hand drawing, etc.
9	Massachusetts Institute of Technology, department of architecture.	Theodore M. Clark, A. B., professor of architecture.			4	16 years	Satisfactory examination.
10	Massachusetts Normal Art School.	Prof. Walter Smith, State art director; Albert H. Munsell, curator.			12	Over 16.	Proficiency in elementary drawing.
11	School of Drawing and Painting, Museum of Fine Arts, Boston, Mass.	W. P. P. Longfellow, sec'y; Otto Grundmann and F. Crowninshield, instructors.			5		Responsible reference and regular attendance.
12	Art School of Smith College.	J. H. Niemeyer	30,000	3	12	17 years	Open to all members of the college.
13	Drawing Classes of the Springfield Art Association.	Charles Bill, corresponding secretary association; Willis S. Adams, instructor.					Payment of tuition fees.
14	Worcester County Free Institute of Industrial Science.	Prof. C. O. Thompson	105,000		2	16 years	Satisfactory examination.
15	Saint Louis School of Fine Arts, Washington University.	Prof. Halsey C. Ives, director.	c120,000		13		

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a Site estimated at $25,000 in addition.

b The public is admitted to these lectures on the payment of 50 cents admission fee. There are also weekly lectures to students throughout the year in each department. The students are admitted to all lectures free.

c Site valued at $19,000 in addition.

including all training in industrial art, etc., for 1881-'82—Continued.

Branches of instruction.	Annual expense of tuition.	Lectures delivered.		
		Number.	Subject.	
18	19	20	21	
Drawing and painting	$72, $90	3 courses	Anatomy, perspective, color, etc.	1
Drawing, painting, perspective, anatomy, architecture, life school, history, and theory of art.	$100	Daily *b*	On topics directly related to current work of the school.	2
Drawing, water colors, wood carving, clay modelling, architecture, history and principles of art.	Free to university students. *c*	2 courses	History of architecture, æsthetics, perspective, principles of design and decoration.	3
....	....	....	....	4
Drawing, painting, perspective, artistic anatomy, and life school.	$25 per term of 12 weeks.	1 course	Artistic anatomy, $10 per course of 20 lectures.	5
Charcoal drawing, water color, china painting, theory of design, and art needlework.	$10 per course, 24 lessons.	....	....	6
....	....	....	....	7
Industrial, free hand, mechanical and architectural drawing.	$3 and members' fees.	....	....	
Free hand drawing, drawing from the antique and from the draped model, painting in oil and water colors, design and modelling.	$25	Weekly	Perspective, ornamental drawing, and decoration.	
Practical designing for textile fabrics	....	....	....	8
Free hand, mechanical, and architectural drawing, with the history, theory, and science of practical architecture.	$200	....	Series on perspective, shadows, ornaments, composition, and the history and theory of architecture.	9
Industrial drawing, machine drawing, ship draughting, painting, modelling, designing, anatomy, sculpture, and figure painting from the antique and life.	(*d*)	Several courses	Architecture and building construction, machine drawing, geometric drawing, perspective, anatomy, sculpture, historic schools of painting, laws of ornament, etc.	10
Charcoal and crayon drawing and painting from the antique and from life.	$90	150, 4 or 5 each week.	Anatomy, history and theory of art, architecture, mythology, costumes, shades, shadows, and perspective.	11
Drawing and painting	$40	....	Courses on architecture, perspective, and anatomy.	12
Drawing and painting	$4 per month for drawing, $5 per month for painting.	4	Relating to art; free to members.	13
Free hand and mechanical drawing, coloring etc.	(*e*)	....	....	14
Free hand, mechanical, and architectural drawing, painting, wood carving, and modelling.	$80	36	Art history and kindred subjects; free to the public. Class lectures to the students each week.	15

c Except for higher drawing and painting; fee for these, $10 per term and $10 incidentals.
d Free to citizens of Massachusetts; $50 per annum to others.
e Free to students of Worcester County and to 23 State students; $150 per annum to others.

TABLE I.—*Statistics of institutions affording art instruction,*

	Name.	Principal.	Value of building.	Number of studios.	Number of special rooms for study.	Conditions of attendance.	
						Age.	Other.
	1	12	13	14	15	16	17
16	Manchester Art Association.	H. W. Herrick, president; F. B. Eaton, secretary.	....	....	3	....	Membership ....
17	The Free School of Design of the Brooklyn Art Association.	E. M. Lowe, secretary association; George O. Annable, principal.	$125,000	....	....	....	Desire for improvement.
18	Cornell University, courses in architecture, mechanic arts, engineering, etc;	And'w D. White, LL.D., president university; Prof. Charles Babcock, dean of College of Architecture.	*a*30,000	....	11	16	Satisfactory examination.
19	Art Students' League, New York.	W. St. J. Harper, president.	....	....	4	....	Membership or satisfactory examination.
20	Cooper Union Art Schools, New York.	Prof. J. C. Zachos, curator.	*b*630,000	....	...	....	....
	1. Woman's Art School.	Mrs. Susan N. Carter..	....	700	7	16 to 35	Responsible reference as to character, etc.
	2. The Free School of Science and Art (drawing classes).	George W. Plympton, A. M., director.	....	....	8	Over 15.	Letter of recommendation.
21	Ladies' Art Association, New York, N. Y.	Miss M. Allason, corresponding secret'y; Miss Alice Donlevy, chairman committee on classes.	....	....	4	....	Membership ....
22	Society of Decorative Art, New York.	Mrs. Wm. T. Blodgett, president; Mrs. Frederic R. Jones, secretary.	....	....	4	....	Satisfactory examination.
23	National Academy of Design, New York.	L. E. Wilmarth, N. A., director.	*d*250,000		4	....	Proficiency in elementary drawing.
24	School of Design, Vassar College.	Prof. Henry Van Ingen.	....	2	4	16	Satisfactory examination.
25	School of Fine Arts of Syracuse University.	Prof. George F. Comfort, dean.	....	....	6	....	Satisfactory examination.
26	School of Design of the University of Cincinnati.	Thomas S. Noble, principal; Thomas Vickers, rector of university.	....	....	8	14 years.	Responsible reference.
27	Women's Art Museum Association.	Mrs. E. W. Perry, president of association.	....	3	....	....	Payment of tuition.
28	School of Design, Ohio Mechanics' Institute.	John B. Heich	....	....	....	....	....
29	Columbus Art School, Columbus, Ohio.	W. S. Goodnough, director.	....	....	2	....	Payment of tuition.
30	Toledo University of Arts and Trades.	Charles J. Shipley	....	....	....	....	....
31	Franklin Institute Drawing Classes, Philadelphia, Pa.	Isaac Norris, M. D., secretary of Institute; Philip Pister, M. E., director of drawing classes.	....	3	....	....	....

a Value of Sibley College building.

b Cost of building; present estimated value of building and site, $2,000,000.

c An afternoon pay class meets three times a week; tuition $15 for 30 lessons; also, lessons in pottery painting, $3 per course.

including all training in industrial art, etc., for 1881–'82—Continued.

Branches of instruction.	Annual expense of tuition.	Lectures delivered.		
		Number.	Subject.	
18	19	20	21	
Free hand, mechanical, and architectural drawing.	....	....	....	16
Drawing from the antique; sketching and painting.	Free	....	....	17
Free hand, mechanical, architectural drawing, etc.	$75	Daily	Architecture, engineering, mechanic arts, etc.	18
Drawing from the antique, and drawing and painting from the nude and draped model; classes in perspective, composition, sketching, portrait and still-life painting, modelling, and artistic anatomy.	From $25 to $70 for members, and from $30 to $125 for non-members.	2 courses	Perspective and artistic anatomy.	19
....	....	....	....	20
Drawing, painting, engraving, photography, and normal art instruction.	Free[c]	3 courses	Anatomy, history of art, and perspective.	
Free hand, mechanical, and architectural drawing, drawing from life and cast, clay modelling, etc.	Free	3 courses	....	
Figure painting and drawing; painting in oil and water colors, and decorative art, painting on porcelain, designing for embroidery, and embroidery.	....	....	Essays on art, especially as applied to decoration.	21
Painting on china and silk, art needlework.	....	....	....	22
Antique and life schools, school of painting, anatomy, and perspective.	Free	....	Annual course on art subjects; free.	23
Drawing, painting, and modelling	$100	Several courses	Anatomy, perspective, laws of ornament, and history of the fine arts.	24
Architecture, painting, engraving, etching, free hand drawing, modelling, and photography.	100	12 courses	Æsthetics, history of fine arts, mythology, archæology, and art literature; early American art.	25
Sculpture, painting, drawing, designing, wood carving, tile and china painting, enamelling, etc.	Free to citizens; to others: night classes, $15; day classes, $30.	Weekly	Artistic anatomy	26
Charcoal drawing, modelling in clay, painting in water colors, china painting, and embroidery.	$15 to $18 for 12 lessons.	....	....	27
Free hand, mechanical, and architectural drawing, designing, modelling in clay, and industrial geometry.	....	....	....	28
Free hand and mechanical drawing, wood carving, art needlework, painting in water color, oil, and on china, landscape and figure sketch class.	$9 to $42	Occasional....	On the immediate subjects of study.	29
....	....	....	....	30
Mechanical, architectural, and topographical drawing, both free hand and instrumental.	[e]$5, $10	Semiweekly ..	Science and mechanic arts.	31

[d] With site.

[e] Per term of 32 lessons each.

TABLE I.—*Statistics of institutions affording art instruction,*

	Name.	Principal.	Value of building.	Number of studios.	Number of special rooms for study.	Conditions of attendance.	
						Age.	Other.
	1	12	13	14	15	16	17
32	Art classes of the Pennsylvania Academy of the Fine Arts.	Thomas Eakins	*a*$475,000	....	8	....	Proficiency in elementary art studies.
33	Philadelphia School of Design for Women.	Miss E. Croasdale, principal; F. O. Horstmann, secretary.	100,000	17	12	13 years.	Satisfactory reference, payment of tuition, and daily attendance.
34	The Pennsylvania Museum and School of Industrial Art.	L. W. Miller, principal; Dalton Dorr, secretary.	....	3	3	15 years.	Satisfactory reference and progress.
35	Pittsburgh School of Design for Women.	Annie W. Henderson	....	5	....	....	Payment of tuition fees and regular attendance.
36	Rhode Island School of Design.	Miss Sarah E. Doyle, secretary.	....	....	4	12 years.	Satisfactory reference.
37	Art School of the Washington Art Club.	E. C. Messer	....	....	2	....	....

a With site, value of which is estimated at $75,000.

including all training in industrial art, etc., for 1881–'82—Continued.

Branches of instruction.	Annual expense of tuition.	Lectures delivered.		
		Number.	Subject.	
18	19	20	21	
Drawing, painting, and modelling the human figure from casts and from living models; instruction is given in anatomy; also, in composition, chiaro oscuro, color, perspective, etc.	Free	33 7	Artistic anatomy Perspective	32
Thorough courses in the industrial and fine arts	$40	Weekly	Comparative anatomy, history of ornament, architecture, decorative art, color, perspective, etc.	33
Drawing and painting from models, casts, draperies, and still life; plane and descriptive geometry; projections, with their application to machine drawing and to building construction; shadows; perspective; modelling and casting; historical ornament and original design.	$18 per term of 18 weeks.	3 courses	Analysis of form as applied to industrial art.	34
Drawing and painting	$30, $50	Weekly	Perspective geometry	35
Mechanical drawing in all its branches, drawing from the antique and life, anatomy, botany, geometry, perspective, painting in oil and water color, art needle work, designing.	$6, $20 per term of 4 months. *b*	15	Relating to art; free to students and members.	36
Drawing, painting, and life school	$8 and $10 per month for daily lessons.			37

b Per term of 32 lessons each.

TABLE I.—*Statistics of institutions affording art instruction,*

	Name and location.	Number of professors and instructors.	Number of pupils.			Number of volumes in art library.
			Total.	Male.	Female.	
	1	22	23	24	25	26
1	School of Design, San Francisco, Cal	2	75	58	17	265
2	Yale School of the Fine Arts, New Haven, Conn	7	144	84	60	600
3	Illinois Industrial University, Champaign, Ill	2	122	84	41	300
4	Art Schools of the Chicago Academy of Design, Chicago, Ill	......	......	......	......	......
5	Art Schools of the Chicago Academy of Fine Arts, Chicago, Ill.	7	273	88	185	250
6	Art Classes of Decorative Art Society, Baltimore, Md	3	47	4	43	......
7	Maryland Institute School of Art and Design, Baltimore, Md.:					
	1. Night School of Design	7	337	337	......	300
	2. Day School of Art	4	*e*190	10	180	300
8	Lowell School of Practical Design, Boston, Mass	1	33	15	18	......
9	Massachusetts Institute of Technology, Department of Architecture, Boston, Mass.	*h*2	48	48	......	450
10	Massachusetts Normal Art School, Boston, Mass	9	171	32	139	180
11	School of Drawing and Painting, Museum of Fine Arts, Boston, Mass.	3	119	34	85	A few.
12	Art School of Smith College, Northampton, Mass	1	25	......	25	......
13	Drawing Classes of the Springfield Art Association, Springfield, Mass.	1	45	21	24	......
14	Worcester County Free Institute of Industrial Science, Worcester, Mass.	1	123	123	......	100
15	St. Louis School of Fine Arts, Washington University, St. Louis, Mo.*n*	7	200	91	109	412
16	Manchester Art Association, Manchester, N. H.	......	......	......	......	275
17	The Free School of Design of the Brooklyn Art Association, Brooklyn, N. Y. *q*	1	25	......	......	......
18	Cornell University, courses in architecture, mechanic arts, engineering, etc., Ithaca, N. Y.	8	118	......	......	1,075
29	Art Students' League, New York, N. Y	5	313	121	192	A few.
20	Cooper Union Art Schools, New York, N. Y.:					
	1. Woman's Art School	13	*w*700	......	700	307
	2. The Free School of Art	11	1,227	1,227	......	......
21	Ladies' Art Association, New York, N. Y	9	106	6	100	......
22	Society of Decorative Art, New York, N. Y	7	480	......	480	142
23	National Academy of Design, New York, N. Y	6	200	120	80	600

a Under "Casts of sculpture" only casts of statues and busts, life size or heroic, are enumerated.

b Under "Other casts" are included all statuettes, parts of human figure, and all casts of foliage, architectural ornaments, etc., for use of students in drawing.

c 40 original oil studies by distinguished students of the École des Beaux-Arts, Paris.

d 150 of these are the set of architectural casts made by Christian Lehr, of Berlin: there are also 490 medallions, 100 Braun's autotypes of old masters, and a large collection of chromo-lithographs and photographs.

e 10 teachers from State Normal School attend every Saturday.

f 7 of the casts are of statues; the school has also 37 modern paintings, 2,000 photographs, lithographs, etc., and a set of drawings given by the Life School of Paris.

g There are many hundred samples of foreign and domestic textile fabrics and wall paper.

h The mathematical and scientific instruction is given by other professors in the institute.

i Most of this collection of architectural casts has been deposited in the Museum of Fine Arts.

j 77 additional drawings from the École des Beaux-Arts, 95 lecture diagrams, 3,665 photographs, 35 specimens of stained glass, 32 architectural models, and many specimens of tiles, terracotta, etc.

k Pupils have access to the collections of the museum.

l 1 life-size anatomical figure and 21 parts of figures.

m The college has 37 modern oil paintings and 1,200 Braun's autotypes of old masters arranged under the different schools of painting. Forty fine engravings, framed, adorn the public rooms and halls of the college. An art building, the gift of Winthrop Hillyer, esq., of Northampton, Mass., was completed in 1882. In this are to be placed a large collection of casts ordered from Europe with other works of art. Class rooms and studios are in this building.

including all training in industrial art, etc., for 1881–'82—Continued.

Material provided; number of—						Prizes awarded.		Public exhibition of work of pupils.	
Casts of sculpture.*a*	Other casts.*b*	Models.	Patterns.	Engravings.	Drawings.	Number.	Name.		
27	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	
49	126	4 sets.	Many	Many.	A few	2	2 gold medals, for excellence in drawing and painting.	Annual.....	1
147	127	(*e*)	Many	325	30	1	For excellence in drawing and painting.	Annual.....	2
189	*d*261	50	50	A few.	......	....	......	Annual.....	3
......	......	......	......	......	......	....	......	......	4
50	17	A few	......	130	......	....	......	Semiannual.	5
......	......	A few	A few	......	......	....	......	......	6
......	Many	Many	......	......	Many	7	Peabody prizes, 3 of $100 each, and 4 of $50.	Annual...	7
*f*20	50	Many	......	......	Many	....	......	......	
......	......	......	(*g*)	......	......	....	......	Annual.....	8
......	*i*746	32	Many	975	*j*810	2	Prizes given by Boston Society of Architects, $50 each in books.	Annual.....	9
25	150	170	......	1,500	12	....	......	Annual.....	10
*k*38	165	*l*22	......	......	20	....	......	Annual.....	11
138	164	A few	......	(*m*)	......	....	......	......	12
8	38	1 set..	......	......	......	....	......	Twice a year.	13
12	190	Many	Many	Many.	Many	....	......	......	14
60	180	*o*Many	Many	......	Many	....	......	Annual.....	15
11	*p*81	A few	......	A few.	......	....	......	Semiannual.	16
*r*26	*s*25	(*t*)	......	100	......	....	......	Annual.....	17
7	168	50	(*u*)	1,375	200	....	......	......	18
22	10	......	......	......	*v*A few	....	......	Annual.....	19
100	650	A few	......	Many.	Many	16	For complete series of drawings in normal class, drawing from cast, from still life, ornamental drawing, portrait drawing, and wood engraving.	Annual...	20
......	Many	Many	Many	Many.	......	5	For architectural, cast, object, and mechanical drawing.	......	
......	......	(*x*)	......	......	......	....	......	Occasional..	21
......	A few	......	(*y*)	......	......	....	......	Occasional..	22
160	......	......	......	500	......	4	Snydam medals, silver and bronze, life school; Elliott medals, silver and bronze, antique school.	Annual.....	23

n Statistics of attendance for year ending December 31, 1881.

o 900 photographs in glass slides to be used with stereopticon, very complete in architectural examples.

p 50 are statuettes; groups by Rogers.

q There is also a painting class of 17, five of whom are ladies, which meets Wednesday and Saturday evenings to paint from draped model.

r 13 are statues.

s 12 full size "masks," 4 small "busts"; remainder "parts of figure." Also a full set of Kensington casts of fruit, flowers, foliage, etc.

t Full set of Walter Smith's models for elementary drawing.

u A collection of 1,390 photographs, mostly architectural.

v The League has a collection of drawings in color studies by art students of Royal Academy, London, École des Beaux-Arts, Paris, and Royal Academy, Munich; also many photographs of drawings in Louvre and other museums, and of works of modern painters.

w 295 of these were in the pay drawing class, 90 in pay class for pottery painting; there were also 45 pupils in free school of wood engraving.

x The association owns a small collection of china; other materials for the use of students, such as books on art, porcelain, laces, embroideries, paintings, etc., are freely loaned by members as the occasion demands.

y The Society of Decorative Art owns a very large and valuable collection of designs for art needle work.

TABLE I.—*Statistics of institutions affording art instruction,*

	Name and location.	Number of professors and instructors.	Number of pupils.			Number of volumes in art library.
			Total.	Male.	Female.	
	1	22	23	24	25	26
24	School of Design, Vassar College, Poughkeepsie, N. Y.	1	41	......	41	545
25	College of Fine Arts of Syracuse University, Syracuse, N. Y.	7	[f]44	10	34	150
26	School of Design of the University of Cincinnati, Cincinnati, Ohio.	8	312	105	207	[h] 100
27	Women's Art Museum Association	6	203	......	203	A few
28	School of Design, Ohio Mechanics' Institute	12	280	280	......	....
29	Columbus Art School, Columbus, Ohio	6	219	24	195	225
30	Toledo University of Arts and Trades, Toledo, Ohio	......	......	......	......	....
31	Franklin Institute Drawing Classes, Philadelphia, Pa	2	116	......	......	250
32	Art Classes of the Pennsylvania Academy of the Fine Arts, Philadelphia, Pa.	4	235	134	101	1,000
33	Philadelphia School of Design for Women, Philadelphia, Pa.	12	249	......	249	113
34	The Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.	4	85	52	33	600
35	Pittsburgh School of Design for Women, Pittsburgh, Pa	4	122	9	113	....
36	Rhode Island School of Design, Providence, R. I.	8	195	118	77	70
37	Art School, Washington, D. C	2	75	24	51	....

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[a] Under "Casts of sculpture" only casts of statues and busts, life size or heroic, are enumerated.

[b] Under "Other casts" are included all statuettes, parts of human figure, and all casts of foliage, architectural ornaments, etc., for use of students in drawing.

[c] 4 are statues.

[d] 7 are reductions of antique statues.

[e] Set of 62 large diagrams for illustrating architecture; also 2,000 Braun's autotypes, and many other photographs.

[f] The total number of students in this department is 153; 109 of these are in the musical classes only.

[g] Also a large collection of photographs.

including all training in industrial art, etc., for 1881-'82—Continued.

Material provided; number of—						Prizes awarded.		Public exhibition of work of pupils.	
Casts of sculpture. *a*	Other casts. *b*	Models.	Patterns.	Engravings.	Drawings.	Number.	Name.		
27	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	
*c*23	*d*16	(*e*)	......	......	......	....	......	Annual	24
1	62	A few	A few	*g*Many.	......	....	......	Annual	25
15	*i*222	......	......	708	*j*11	....	Gold and silver medals and diplomas.	Annual	26
A few	A few	A few	A few	A few.	A few	....	......	......	27
......	Many	Many	Many	......	......	9	3 gold, 3 silver, and 3 bronze medals.	Annual	28
6	56	64	310	......	......	....	......	Annual	29
......	......	......	......	......	......	....	......	......	30
......	......	Many	A few	Many.	500	....	......	Annual	31
184	103	......	......	*k*50, 000	200	1	$100 for best painting by a lady of Philadelphia.	......	32
70	290	......	......	Many.	1, 000	4	One scholarship and 3 gold medals, 1 for best designs, 1 for best illustrations, 1 for greatest progress and for regular attendance.	Annual	33
3	35	*l* 50	50	Many.	Many	...	......	Annual	34
49	Many	A few	......	*m*A few	A few	6	1 gold, 3 silver, 2 bronze medals for best work.	Annual	35
*n*36	160	2 sets	Many	Many	......	6	Silver medals for best work in different departments.	Annual ...	36
......	A few	A few	......	......	......	....	......	......	37

h Students have access to public library, in which are nearly 4,000 volumes of art books.
i 41 of these are reduced figures and busts.
j Nine reproductions of ancient armor, 15 oil paintings, and 48 autotypes.
k Also 200 Braun's autotypes, 150 photographs, a manikin, and colored anatomical casts. Students have access to the art collections of the academy.
l The pupils and all other art students have access to the collections in Memorial Hall.
m Also a large number of Braun's autotypes.
n Six of the casts are statues.

TABLE II.—*Statistics for* 1881-'82; *from replies to inquiries*

MUSEUMS

	Name of museum.*a*	Location.	By whom owned.	When founded.
	1	2	3	4
1	Art Gallery, Wadsworth Atheneum	Hartford, Conn	Stockholders	1842
2	Art Collections, Connecticut Museum of Industrial Art.	New Haven, Conn.	Trustees	1876
3	Art Collections, Yale School of Fine Arts, Yale College. *b*	New Haven, Conn	Corporation of Yale College	*c*1825
4	Art Gallery, Illinois Industrial University.	Champaign, Ill	Illinois Industrial University.	1874
5	Art Collections, Louisiana State University.	Baton Rouge, La	State of Louisiana	1851
6	Museum of Maryland Historical Society.	Baltimore, Md	Maryland Historical Society	1844
7	Art Gallery, Peabody Institute	Baltimore, Md	Trustees of Peabody Institute	1857
8	Art Gallery, Amherst College	Amherst, Mass	Amherst College	1874
9	Fine Arts Department of the Public Library.	Boston, Mass	City of Boston	1852
10	Museum of Fine Arts *b*	Boston, Mass	Trustees	1870
11	Art Collections, Smith College	Northampton, Mass	Trustees	1875
12	Essex Institute, Fine Arts Department.	Salem, Mass	Essex Institute Corporation	*f*1848
13	Museum of Art and History, University of Michigan.	Ann Arbor	University of Michigan	1855
14	Museum of Fine Arts, Washington University.	St. Louis, Mo	Washington University	1879
15	Buffalo Fine Arts Academy	Buffalo, N. Y	Buffalo Fine Arts Academy	1862
16	Art Collections, Cornell University	Ithaca, N. Y	Cornell University	1865
17	Art Collections, Lenox Library	New York, N. Y	Trustees of Lenox Library *g*	1870
18	Metropolitan Museum of Art *b*.	New York, N. Y	Corporation of Metropolitan Museum of Art.	1870
19	Museum and Gallery of Art of the New York Historical Society.	New York, N. Y	New York Historical Society	1804
20	Permanent Art Collections of the National Academy of Design. *b*	New York, N. Y	Corporation of Academicians	1826
21	Art Gallery, Vassar College	Poughkeepsie, N. Y.	Vassar College	1864
22	Art Museum, Syracuse University	Syracuse, N. Y	Syracuse University	1873
23	Museum of the Western Reserve and Northern Ohio Historical Society.	Cleveland, Ohio	Trustees	1867
24	Art Collections of Pennsylvania Museum and School of Industrial Art.	Philadelphia, Pa	Trustees	1876
25	Collection of the Historical Society of Pennsylvania.	Philadelphia, Pa	Historical Society of Pennsylvania.	1824
26	Permanent Art Collections of the Pennsylvania Academy of Fine Arts. *b*	Philadelphia, Pa	Stockholders	1805
27	Art Collection of the Redwood Library and Athenæum.	Newport, R. I	The Company of the Redwood Library and Athenæum.	*k*1859
28	Park Gallery of Art, University of Vermont.	Burlington, Vt	University of Vermont	1873
29	Athenæum Art Gallery	St. Johnsbury, Vt	Board of five trustees	1875
30	Corcoran Gallery of Art	Washington, D. C	Board of nine trustees	1869

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a In all instances in which the art museum forms a department of some other institution the statistics given refer exclusively to the art museum or art school.

b In addition to its own, the museum exhibits important loan collections.

c Date of the acquisition of the Trumbull paintings.

d No money is spent in this department; its increase comes solely from gifts.

e The city of Boston gave the site of the building to the trustees of the museum on condition that the museum should be opened free to the public four days in each month.

f Art collection in 1870.

made by the United States Bureau of Education for this Report.
OF ART.

By whom founded.	Amount of endowment.	Income for last year.		Expenditure for last year.		
		Amount.	Source.	Amount.	Object.	
5	6	7	8	9	10	
Daniel Wadsworth and others.	....	....	From visitors only.	....	....	1
W. P. Blake and citizens of Connecticut.	....	$250 00 600 00	Donations ...... Other sources...	$500 00 250 00 250 00	Wages.......... Repairs, etc .... Collections	2
Corporation of Yale College.	$86,000	....	Admission fees .	700 00	Salary of curator .	3
Money raised and expended by President Gregory.	....	....	....	120 00	Collections	4
Louisiana State University.	....	....	....	....	....	5
Twenty citizens	....	....	....	....	....	6
George Peabody	....	....	....	9,200 00	Collections	7
Money raised and expended by Prof. R. H. Mather.	....	2,125 00	Donations	2,125 00	Collections	8
City of Boston	(*d*)	....	....	....	....	9
Corporators *e*	....	5,570 83 5,397 42 1,050 00	Endowment.... Admission fees, etc. Gray collection fund.	8,082 65 8,124 64 6,734 17 1,205 80	Salaries & wages Repairs, etc..... Collections ..... Gray collection .	10
Estate of Sophia Smith	....	8,000 00	Donations	8,000 00	Collections.......	11
Essex Historical and Natural History Societies.	....	200 00	Donations and other sources.	200 00	Collections, etc ...	12
Art collection commenced by Prof. H. S. Frieze.	....	....	....	....	....	13
Washington University....	....	27,250 00	Donations	8,400 00 640 00 15,000 00	Salaries & wages Repairs .... Collections	14
Citizens of Buffalo........	32,000	4,100 00	All sources	416 00 1,180 00	Salaries, etc.... Rent, repairs, etc	16
Cornell University........	....	....	....	....	....	18
James Lennox	....	....	....	....	....	17
Citizens of New York	....	12,500 00 4,448 00 2,538 00	State grant ..... Members' dues . All other sources	20,500 00 3,400 00	Salaries & wages Repairs, etc.....	18
Egbert Benson, John Pintard, and nine others.	....	....	Members' dues .	....	....	19
Artists of New York	50,000	....	Endowment, donations, exhibitions, and fellows' subscriptions.	....	....	20
Matthew Vassar *h*	50,000	....	Endowment	300 00	Reframing water colors.	21
Syracuse University.......	....	....	....	....	....	22
Members of Cleveland Library Association.	10,300	1,085 00	Endowment	1,076 00	Current expenses.	23
Citizens and authorities of Pennsylvania and of city of Philadelphia *i*.	....	7,238 20 11,777 18	Donations ...... All other sources	5,063 09 1,835 08 1,466 30	Salaries & wages Repairs, etc..... Collections	24
Seven citizens	43,700	....	Members' dues .	....	....	25
Seventy-one citizens	70,000	....	Endowment, subscriptions, exhibitions, etc.	....	....	26
C. B. King, Edward King, and citizens of Newport R. I.	....	....	....	....	....	27
University of Vermont....	....	475 00	All sources	310 00 76 00	Paintings....... Marbles	28
Horace Fairbanks	....	....	....	....	....	29
W. W. Corcoran	....	....	....	....	....	30

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g Library incorporated 1870. Art collections opened to the public in 1877.

h By collections of pictures and art books which cost $20,000. One endowment is a "history, art, and cabinet fund."

i This museum occupies the memorial building erected in Fairmount Park, at a cost of $1,500,000, and used as the main art building of the Centennial Exhibition in 1876.

k Library founded in 1730.

TABLE II.—*Statistics of museums of art for* 1881-'82, *etc.*—Continued.

	Name of museum.	Chief officer.	Admission.	Number of visitors last year.	Lectures delivered.	
					Number.	Subjects.
	1	11	12	13	14	15
1	Art Gallery, Wadsworth Athenæum	Calvin Day, president; J. Hammond Trumbull, secretary.	Free to stockholders and their families; the public pay an admission fee.	......	......	
2	Art Collections, Connecticut Museum of Industrial Art.	W. P. Blake, secretary and superintendent.	Fee of 25 cents	......	......	
3	Art Collections, Yale School of Fine Arts, Yale College.	Prof. John F. Weir, N. A., director	Free to the students; the public pay a fee of 25 cents.	3, 000	......	Evening course on the history and philosophy of art open to the public, free to students.
4	Art Gallery, Illinois Industrial University	S. H. Peabody, LL. D., president of university.	Free Thursday; a fee of 10 cents other days.	......	......	Architecture and the history and principles of art.
5	Art Collections, Louisiana State University	Col. Wm. Preston Johnston, president of university.	Unrestricted	......	......	
6	Museum of Maryland Historical Society	J. G. Gatchel, assistant librarian	Unrestricted	......	......	
7	Art Gallery, Peabody Institute	N. H. Morrison, provost of institute	......	......	......	
8	Art Gallery, Amherst College	Prof R. H Mather, custodian	Unrestricted	......	35	Historical sculpture.
9	Fine Arts Department of the Boston Public Library.	Mellen Chamberlain, superintendent of the library.	Unrestricted	......	......	
10	Museum of Fine Arts	Martin Brimmer, president; Charles C. Perkins, chairman committee on museum; Charles G. Loring, curator.	Free on Saturday and afternoon of Sunday: fee of 25 cents on the other days.	157, 191	......	
11	Art Gallery, Smith College	L. Clark Seelye, president of college; J. H. Niemeyer, professor of drawing and painting.	Unrestricted	......	3 courses	Architecture, perspective, and anatomy.
12	Essex Institute, Fine Arts Department	George M. Whipple, secretary	Unrestricted	2, 010	1 course	Art; admission free.
13	Museum of Art and History, University of Michigan.	J. B. Angell, LL.D., president of university; Prof. H. S. Frieze, curator.	Unrestricted	......	2 courses	Architecture, sculpture, and painting.
14	Museum of Fine Arts, Washington University.	Prof. Halsey C. Ives	Free to all students and artists; the public pay a fee of 25 cents.	......	Several	Art history, artistic anatomy, perspective, etc., to art classes, also occasional public lectures on general art subjects.

15	Buffalo Fine Arts Academy	Thomas Rochester, M. D., president of academy; L. G. Sellstedt, corresponding secretary.	25 cents, or by annual or life membership tickets.	3,000		
16	Art Collections, Cornell University	Andrew D. White, LL. D., president of university.	Unrestricted		200	Architecture.
17	Art Gallery, Lenox Library	George H. Moore, LL. D., superintendent of library.	Tuesday, Friday, and Saturday from 11 A. M. to 4 P. M., by ticket obtained from superintendent on written application. Free.			
18	Metropolitan Art Museum of Art	John Taylor Johnston, president; Gen. L. P. di Cesnola, LL. D., secretary and director; Prof. W. H. Goodyear, curator.	Free 4 days each week; on Monday and Tuesday fee of 25 cents; closed Sunday.			
19	Museum and Gallery of Art of the New York Historical Society.	Jacob B. Moore, librarian	Free to members and friends and practically free to the public.			
20	Permanent Art Collections of the National Academy of Design.	D. Huntington, N. A., president; T. Addison Richards, N. A., corresponding secretary.	To the general public, 25 cents.			Annual course on art subjects; free.
21	Art Gallery, Vassar College	S. L. Caldwell, D. D., president; Prof. Henry Van Ingen, curator.	Unrestricted		1 course.	History, and theory of architecture, sculpture, painting, and ornament, illustrated with stereopticon.
22	Art Museum, Syracuse University	Prof. George F. Comfort, dean of college of fine arts.	Unrestricted	2,000	6 courses	History and the theory of the fine arts.
23	Museum of the Western Reserve and Northern Ohio Historical Society.	C. Whittlesey, president; C. C. Baldwin, secretary.	Unrestricted	4,416		
24	Art Collections of Pennsylvania Museum and School of Industrial Art.	William Platt Pepper, president; Dalton Dorr, secretary and curator.	Open, free to all, every day in the year.	135,530	3 courses	Anatomy, historical ornaments, structural botany.
25	Collection of the Historical Society of Pennsylvania.	John William Wallace, president; John Jordan, jr., chairman of library committee; Frederick D. Stone, librarian.	Unrestricted			
26	Permanent Art Collections of the Pennsylvania Academy of Fine Arts.	James L. Claghorn, president; George Corliss, secretary of the academy.	Free to stockholders, exhibitors, and artists; others pay 25 cents. Free to all on Sunday.	55,000	44	Anatomy, 33; perspective, 7; industrial art, 3; engraving, 1.
27	Art Collection of the Redwood Library and Athenæum, Newport, R. I.	Benjamin F. Thurston, librarian	Unrestricted			
28	Park Gallery of Art, University of Vermont	M. H. Buckman, D. D., president of the university; H. A. P. Torrey, secretary trustees of Park gallery.	Unrestricted	400	2 courses	Public lectures on art courses.
29	Athenæum Art Gallery, St. Johnsbury, Vt.	C. A. Willard, librarian of Athenæum			Several	
30	Corcoran Gallery of Art	William MacLeod, curator; F. S. Barbarin, M. D., assistant curator.	Free Tuesday, Thursday, and Saturday; other days, admission 25 cents.			

TABLE II.—*Statistics of museums of art, etc.*—Continued.

	Name of museum.	Sculpture.											Ceramics, glass, and mosaics.
		Marbles.				Copies in plaster.				Bronzes.	Terra cottas.	Rilievi, ancient and modern.	
		Statues.		Busts.		Statues.		Busts.					
		Antique.	Modern.	Antique.	Modern.	Antique.	Mediæval and modern.	Antique.	Mediæval and modern.				
	1	16	17	18	19	20	21	22	23	24	25	26	27
1	Art Gallery, Wadsworth Athenæum	1	4	....	6	....	*a*70	....	12	3	....	7	....
2	Art Collections of Connecticut Museum of Industrial Art.	....	....	1	....	....	2	....	1	*b* Many	*c* A few	15	*d*632
3	Art Collections, Yale School of Fine Arts, Yale College.	2	1	*e*0	5	60	12	60	15	....	1	127	34
4	Art Gallery, Illinois Industrial University	....	....	....	....	41	21	48	79	....	....	130	....
5	Art Collection, Louisiana State University	....	....	....	....	....	....	16	41	....	14	....	....
6	Museum of Maryland Historical Society	....	....	....	4	*f*6	....	....	2	....	....	2	....
7	Art Gallery, Peabody Institute	*g*1	1	....	4	63	*h*29	32	*i*26	*j*2	....	*k*24	....
8	Art Gallery, Amherst College	....	....	2	....	62	24	23	10	5	2	*l*25	....
9	Fine Arts Department of the Boston Public Library.	....	3	1	6	....	....	....	5	....	....	*m*1	....
10	Museum of Fine Arts, Boston, Mass	(*n*)	5	....	*o*6	*p*122	*q*41	48	8	(*r*)	*s*666	*t*808	*u*353
11	Art Gallery, Smith College	....	....	....	....	59	1	64	15	....	....	10	....
12	Essex Institute, Fine Arts Department	....	....	....	....	....	....	....	30	....	....	(*v*)	300
13	Museum of Art and History, University of Michigan.	....	*g*1	....	1	24	8	9	10	3	*w*81	29	....
14	Museum of Fine Arts, Washington University, Saint Louis.	....	4	....	2	103	4	90	4	....	....	79	72
15	Buffalo Fine Arts Academy	....	1	*x*4	....	9	....	....	3	12	....	....	....
16	Art Collection, Cornell University	....	....	....	2	....	4	3	9	*y*10	*z*934	*aa*12	....
17	Art Gallery, Lenox Library	....	7	*bb*4	6	....	....	....	....	1	....	....	....
18	Metropolitan Museum of Art	*cc*2, 300	19	11	2	*dd*2	....	....	....	*ee*323	*ee*729	*ff*85	*gg*9, 200
19	Museum and Gallery of Art of the New York Historical Society.	1	3	1	11	....	....	....	42	1	....	2	....
20	Permanent Art Collections of the National Academy of Design.	....	3	....	7	60	....	100	....	....	....	....	....

21	Art Gallery, Vassar College	....	....	....	1	11	6	13	6	....	....	8	....
22	Art Museum, Syracuse University	....	....	....	3	5	15	23	*hh*12	....	30	20	....
23	Museum of the Western Reserve and Northern Ohio Historical Society.	....	....	....	....	....	....	....	3	5	....	9	46
24	Art Collections of Pennsylvania Museum and School of Industrial Art.	....	....	....	....	1	2	3	....	*ii*2	*ii*2	1	*jj*610
25	Collection of the Historical Society of Pennsylvania.	....	....	....	....	....	....	....	16	....	....	....	....
26	Permanent Art Collections of the Pennsylvania Academy of Fine Arts.	*kk*10	*ll*13	*g*6	*mm*14	49	8	81	*nn*43	3	*oo*4	91	....
27	Art Collection of the Redwood Library and Athenæum.	*g*1	2	*g*5	*g*2	....	....	4	22	....	....	....	1

a 41 are the models of all of Bartholomew's statues, and 10 of the busts are by the same artist.

b Collection of bronzes made in China and Japan by Prof. W. P. Blake in 1862–'63, with subsequent additions.

c Swedish and American vases; also cornices, capitals, columns, etc., for use in architecture.

d Specimens in Oriental, European, old English, and American pottery; special collections of glassware, and of British, Spanish, and American tiles; also examples of artistic tiles manufactured in Connecticut, with specimens of materials used.

e 8 of these are copies and 1 is an original.

f 24 casts of antique statues and 2 of busts belonging to the Peabody Institute, are at present in this museum.

g Copies.

h 2 are colossal: the "David" of Michael Angelo, and the "Taney," by Rinehart; 13 are models of original statues by Rinehart.

i 25 are models of originals by Rinehart.

j The famous reproduction of the Ghiberti gates, made by Barbedienne, of Paris, for the Vienna Exposition, half size of the originals.

k 5 are originals by Rinehart; there are also two models of large vases by him. The Peabody has 260 feet of the Parthenon frieze in position in the sculpture gallery. It has also 170 feet in duplicate. Twenty-four casts of antique statues and 2 of busts are deposited with the Historical Society.

l Of these 6 are original slabs of large size from Nineveh, 19 are copies in plaster; of these last the 212 feet of the Pan Athenaic frieze of the Parthenon, here placed in position as the frieze of the gallery, the Ghiberti gates and the Crawford doors of the Capitol at Washington, are each reckoned as a single example.

m Terra cotta.

n 60 fragments of antique sculpture, collected in Rome by Mr. C. C. Perkins, are set in the wall of the corridor, as is customary in Italy.

o Of these, 2 are bronze and 1 terra cotta.

p Among the casts of antique sculpture are 6 Greek vases, 36 slabs of the frieze of the Parthenon, 24 slabs of the frieze of the Temple of Apollo at Bassæ, and other large reliefs.

q 11 of these are originals.

r Among Egyptian antiquities.

s Antiquities from Cyprus, Tanagra figurines, etc.

t These are plaster casts; the museum has also 5 carvings in ivory and 50 carvings in wood.

u Also the Dixwell collection of Etruscan pottery, 47 objects, and a large number of Græco-Italian fictile painted vases, collected by Castellani and presented to the museum by Mr. Thomas G. Appleton.

v 6 ancient inscriptions in stone.

w These are the famous miniature copies of antiques made by Mollica in Naples; 42 statuettes, 35 portrait busts, and 4 busts of the mediæval poets of Italy.

x 3 of these are copies.

y One medallion portrait and 9 modern statuettes.

z Pieces and fragments of ancient Indian pottery from Brazil and Peru.

aa Besides a large and fine collection of specimens of wood carving.

bb 2 are copies in marble.

cc This is the number of pieces of ancient Cypriote statuary contained in the Di Cesnola collections. These are cut in the soft limestone of Cyprus, there being no marble on the island. Among these are massive sarcophagi, heroic and life-size statues, statuettes, many hundred heads broken off from statues and statuettes, votive offerings, and mural tablets with inscriptions, the whole forming a continuous series of examples of the progress of the art, beginning with the Phœnicians and continuing with the early and later Greeks to the Romans.

dd 1 copy in marble.

ee Di Cesnola collection.

ff Of these, 49 are antiques in stone, 35 are plaster copies of antiques. The museum has also 19 carvings in ivory, 6 in wood, and 137 ancient inscriptions in stone.

gg Antique ceramics, 7,232; antique glass, 1,239; mediæval glass, 127; modern glass, 11; modern mosaic, 1; also the Marquand collection of ancient Greek and Roman glass, and the Jarves collection of Venetian glass, the two collections numbering about 600 pieces.

hh 4 of these are originals.

ii Copies of mediæval statuary.

jj A rare collection of ceramics and glassware, selected from the exhibitions of different countries at the Centennial, supplemented by important loan collections of English, French, and Spanish pottery and glass, and forming a very complete exhibition of these industries.

kk 8 are copies.

ll 3 are copies.

mm 1 is a copy.

nn 17 are originals.

oo Original Tanagra figurines.

TABLE II.—*Statistics of museums of art etc.*—Continued.

	Name of museum.	Sculpture.										Rilievi, ancient and modern.	Ceramics, glass, and mosaics.
		Marbles.				Copies in plaster.				Bronzes.	Terra cottas.		
		Statues.		Busts.		Statues.		Busts.					
		Antique.	Modern.	Antique.	Modern.	Antique.	Mediæval and modern.	Antique.	Mediæval and modern.				
	1	16	17	18	19	20	21	22	23	24	25	26	27
28	Park Gallery of Art, University of Vermont.	....	....	....	2	8	3	....	*a*2	....	....	*b*16	....
29	Athenæum Art Gallery, St. Johnsbury, Vt.	....	2	....	....	....	....	....	....	7	....	....	1
30	Corcoran Gallery of Art.	....	8	1	*c*11	65	7	38	1	*d*124	....	*e*78	*f*23

a 1 is original.

b 1 is original in marble, the "Ghost in Hamlet," by the late American sculptor, Mr. T. R. Gould.

c 3 are copies in marble.

d 116 are by Barye, of Paris. The Hall of Bronzes contains also a case of the Hildesheim treasures, 30 pieces; a case of electrotype reproductions from South Kensington, 90 pieces; and the Milton shield and other Elkington work.

e Copies in plaster. Of these 78, the 198 feet of the frieze of the Parthenon,—which form the frieze of the Hall of Antique Sculpture,—and the Ghiberti gates, are each reckoned as a single example.

f 4 exquisite Sèvres vases, the Prometheus vase by Minton, 2 majolica vases by Decker, of Paris, and 2 porcelain plaques by Schopin, of Paris, are in this small but costly collection of ceramics.

TABLE II.—*Statistics of museums of art, etc.*—Continued.

	Name of museum.	Paintings, engravings, etc.					Coins, gems, jewelry, etc.			Miscellaneous.					
		Painting in oil and water.													
		Old masters.	Copies of old masters.	Modern.	Engravings and etchings.	Photographs, lithographs, drawings, etc.	Gold and silver ware, coins, and medals.	Gems, cameos, and enamels.	Plaster casts of gems and medallions.	Rare specimens of binding and printing.	Specimens of armor and weapons.	Costumes.	East Indian, Chinese, and Japanese curiosities.	Indian relics.	Egyptian antiquities, etc.
	1	28	29	30	31	32	33	34	35	36	37	38	39	40	41
1	Art Gallery, Wadsworth Atheneum	......	20	138	12	......	......	......	......	......	......	......	......	......	......
2	Art Collections, Connecticut Museum of Industrial Art	4	......	......	......	*a* 100	A few.	31	......	20	......	*b* A few	*c* Many	A few.	......
3	Art Collections, Yale School of Fine Arts, Yale College	130	50	200	275	300	1	2	100	......	1	A few.	20	......	1
4	Art Gallery, Illinois Industrial University	......	......	......	53	1,225	200	......	490	......	......	......	......	Many.	......
5	Art Collections, Louisiana State University	......	......	19	4,262	407	200	......	......	......	Many.	......	......	Many.	......
6	Museum of Maryland Historical Society *d*	......	5	16	A few.	69	*e* Many.	......	......	......	Many.	Many.	......	Many.	......
7	Art Gallery, Peabody Institute	......	......	6	......	......	......	......	......	......	......	......	......	......	......
8	Art Gallery, Amherst College	......	1	4	......	625	......	......	......	......	......	......	......	......	......
9	Fine Arts Department of the Boston Public Library	......	......	25	*f* 7,000	A few.	*g* A few	......	......	Many.	......	......	......	......	......
10	Museum of Fine Arts, Boston *h*	*i* 63	6	40	*j* 150	(*k*)	200	26	......	......	50	30	200	(*l*)	*m* 2,000

a Series of panel pictures representing windows of Cologne Cathedral.

b The life size groups illustrating life in Sweden and Lapland which were exhibited at the International Exhibition at Philadelphia in 1876. The museum has also a collection of textile fabrics, 40 or 50 specimens of laces, and a series of large tapestry hangings, "Flemish," 12 feet by 15 feet, illustrating the adventures of Don Quixote.

c Including carvings in jade, crystal, and ivory; also choice examples of metal work, lacquer ware, wood carvings, cabinets, and screens.

d In addition to the paintings belonging to the society there are constantly on exhibition many others deposited by private owners.

e Including a series of 18 bronze medals, struck by order of Congress between 1770 and 1815; a few antique Greek and Roman coins, and many hundred modern coins; also the "Towson cabinet of medals and coins," numbering 251 specimens, contained in 19 volumes, and extending from 300 B. C. to 1851 A. D.

f Cardinal Tosti's collection, the gift of Thomas G. Appleton, esq., deposited on loan in the Boston Museum of Fine Arts.

g Among these are the medal given by Congress to Washington to commemorate the evacuation of Boston in 1776, several Franklin medals, and a large silver vase given to Daniel Webster in 1835.

h The museum contains a room known as the Lawrence room, which is fitted with the entire lining and ceiling in carved oak of an English room of the sixteenth century, elaborately ornamented with bas reliefs and with portraits of English kings and queens in panels; purchased in London in 1871, and presented by Mrs. T. B. Lawrence. In this room are exhibited chests and other articles of furniture in carved wood of the fourteenth, fifteenth, sixteenth, and seventeenth centuries. The museum also possesses collections illustrating the application of art to industry, including many specimens of rare embroideries, a large number of textile fabrics, 79 examples of artistic metal work, etc. Many valuable paintings as well as choice examples of art work of every description which belong to private owners, are constantly to be seen in the galleries of the museum, while special loan exhibitions to illustrate particular branches of art are held from time to time.

i 40 of these are water colors.

j These are etchings. The Gray collection of 6,000 engravings and the Tosti collection of 7,000 engravings are deposited on loan in the museum.

k 10 volumes of photographs and 16 original drawings.

l 100 Mexican and Peruvian relics.

m The Way collection; several remarkable pieces of sculpture, lately given by the Lowell family, add greatly to the Egyptian collection.

TABLE II.—*Statistics of museums of art, etc.*—Continued.

	Name of museum.	Paintings, engravings, etc.					Coins, gems, jewelry, etc.			Miscellaneous.					
		Painting in oil and water.													
		Old masters.	Copies of old masters.	Modern.	Engravings and etchings.	Photographs, lithographs, drawings, etc.	Gold and silver-ware, coins, and medals.	Gems, cameos, and enamels.	Plaster casts of gems and medallions.	Rare specimens of binding and printing.	Specimens of armor and weapons.	Costumes.	East Indian, Chinese, and Japanese curiosities.	Indian relics.	Egyptian antiquities, etc.
	1	28	29	30	31	32	33	34	35	36	37	38	39	40	41
11	Art Gallery, South College	.....	2	37	40	*a* 1, 200	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	Essex Institute, Fine Arts Department	.....	.....	75	Many.	Many.	*b*3, 000	.....	A few.	.....	30	.....	A few.	.....	A few
13	Museum of Art and History, University of Michigan	.....	2	.....	52	123	1, 000	.....	1, 694	.....	100	16	600	*c*100	1
14	Museum of Fine Arts, Washington University, Saint Louis, Mo.	1	0	8	430	2, 600	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	Buffalo Fine Arts Academy	.....	31	146	.....	23	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	Art Collection, Cornell University	.....	.....	11	*d* 260	*e*1, 350	.....	.....	2, 750	*f*93	.....	.....	.....	359	.....
17	Art Gallery, Lenox Library	.....	4	140	Many.	.....	.....	(*g*)	.....	Many.	.....	.....	.....	.....	.....
18	Metropolitan Museum of Art	198	.....	141	Many	*h*1, 400	*i*Many.	*j*473	63	Many.	Many.	(*k*)	*l*Many	*m*Many	*n*Many
19	Museum and Gallery of Art of the New York Historical Society.	481	.....	310	Many.	Many.	Many.	.....	.....	.....	.....	.....	.....	Many.	*o*1, 551
20	Permanent Art Collections of the National Academy of Design.	.....	.....	*p*492	500	400	.....	.....	.....	.....	.....	.....	.....	.....	.....
21	Art Gallery, Vassar College	.....	8	365	300	3, 000	.....	.....	.....	.....	15	.....	.....	.....	.....
22	Art Museum, Syracuse University	.....	.....	21	620	4, 200	.....	.....	.....	.....	.....	.....	.....	600	.....
23	Museum of the Western Reserve and Northern Ohio Historical Society.	.....	.....	11	121	1, 346	2, 796	2	343	6	41	*q*3	207	5, 123	10
24	Art Collections of Pennsylvania Museum and School of Industrial Art. *r*	.....	.....	.....	194	512	306	50	.....	.....	62	40	192	(*s*)	.....
25	Collection of the Historical Society of Pennsylvania.	.....	.....	112	2, 000	Many.	Many.	.....	.....	Many.	7	.....	.....	Many.	.....
26	Permanent Art Collections of the Pennsylvania Academy of Fine Arts.	32	21	228	50, 000	*t*1, 108	.....	.....	2, 217	.....	.....	.....	.....	.....	.....
27	Art Collection of the Redwood Library and Athenæum.	4	41	172	Many.	Many.	34	.....	.....	A few.	.....		.....	Many.	.....
28	Park Gallery of Art, University of Vermont	.....	.....	5	16	*u*100	.....	.....	.....	.....	.....	.....	.....	.....	.....
29	Athenæum Art Gallery, Saint Johnsbury, Vt	.....	.....	35	(*v*)	Many.	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	Corcoran Gallery of Art	.....	.....	170	.....	(*w*)	.....	.....	.....	.....	16	.....	(*x*)	.....	.....

a A collection of Braun's autotypes of old masters.
b Nearly 400 of these are ancient Greek and Roman coins; the rest are modern coins.

c There are also 200 specimens of ancient Peruvian pottery, 50 of Amazonian, and 100 of Chinese and Malayian pottery.

d Includes publications of Arundel Society, the Berlin Museum series, and heliotypes of the Gray collection.

e 100 of these are original drawings.

f Also 13 illuminated manuscripts deposited by owners.

g The library has a small collection of enamels, paintings on porcelain, copies of old masters, majolica, and mosaics—in all, 59 pieces.

h Including the Vanderbilt collection of drawings by old masters, 690 in number.

i 427 of these are articles in gold and silver belonging to the Curium treasure; there is also a collection of ancient coins, the gift of Joseph W. Drexel, esq.

j Including the "King collection" of gems, 331 pieces, gift of John Taylor Johnston; a collection of Babylonian cylinders, and the "Cesnola Curium" pieces.

k The MacCallum collection of laces, 721 pieces. The museum has also 11 pieces of tapestry; also valuable Eastern robes, bequest of Stephen Whitney Phœnix.

l Including the "Avery collection of Oriental Porcelain," 1,158 pieces, and the Phœnix bequest of bronzes, lacquer, oriental ivories, robes, etc., in all, about 700 pieces.

m Including valuable collection of Peruvian pottery, gift of W. W. Evans.

n Including collection of casts, gift of J. W. Drexel, and S. L. M. Barlow's collection of ancient Egyptian pottery.

o The Abbott collection; the museum also contains the Lenox collection of Nineveh sculptures, 13 pieces. The society owns a large collection of antiquities relating to North and South America not yet displayed.

p Of these 92 were given to the academy by the will of the late James A. Suydam, its former treasurer; of the remaining 400, 200 are portraits of members and 200 paintings by members.

q Also tapestry from Warwick Castle.

r The collection of students' work exhibited at the Centennial by the South Kensington authorities was given to this museum; the whole of the superb India collection was also given. The museum exhibits a rare and very complete collection of Persian stuffs, etc. It owns an important collection of textile fabrics, embroideries, and costumes; specimens of work in wood, metal, and stone, illustrating the use of ornament in architecture; many articles of work in the precious metals, and the electrotype reproductions of the South Kensington mediæval work in metal exhibited by Elkington & Co., at the Centennial; the reproductions of the Hildesheim treasures, also Oriental and European enamels. Many fine specimens of Oriental work in pottery, bronze, and jade are also included in the loan collections now on exhibition.

s A large collection of relics of the "Mound Builders" of North America, loaned by Dr. M. W. Dickeson, is on view.

t 200 original drawings, 200 Braun's autotypes, 558 lithographs, 150 photographs.

u Also 10 fac similies of illuminated manuscripts.

v Several volumes of fine engravings, among them the Musée Français, Musée Royal, Hogarth's Works, Canova's Works, etc., are in the library of the Athenæum.

w Over 100 photographs of the leading works of art in its possession are taken, to be obtained only at the gallery.

x 2 remarkable Japanese porcelain vases made for the Centennial, 1 large Japanese porcelain bowl, 5 specimens of cloisonné, old Chinese, and modern Elkington; in addition to these, many rare and valuable articles, antique and modern, which cannot be classified in this table, are in the Hall of Bronzes and Ceramic Ware of the Corcoran Gallery of Art.

APPENDIX A.

PAPERS

CONNECTED WITH

EARLY EFFORTS TO INTRODUCE THE STUDY OF DRAWING

AS A BRANCH OF

POPULAR EDUCATION IN THE UNITED STATES;

WITH

SOME ACCOUNT OF SIMILAR EFFORTS IN ENGLAND, BEFORE THE ESTABLISHMENT OF SOUTH KENSINGTON:

I.—Introduction.
II.—Rembrandt Peale's "Graphics." Philadelphia, 1845.
III.—Minifie's Maryland Institute Addresses. Baltimore, Md., 1852.
IV.—Dwight's art articles in Barnard's American Journal of Education, 1857.
V.—Superintendent Philbrick's report. Boston, 1871.
VI.—Some English examples, including a brief history of the efforts made by Benjamin Robert Haydon to promote education in art, in Great Britain, from 1804 to 1846: with the criticism by Mr. John Sparkes, in 1874, on the erroneous methods of training in art then inculcated by the authorities of South Kensington.

I. INTRODUCTION.

The papers here grouped illustrate the efforts made from time to time, during the present century, to inaugurate the teaching of elementary drawing, industrial art, and some instruction in simple industries in the public schools. References to these papers are found in the notes to the historical chapter of this Report preliminary to the extended account, in succeeding chapters, of the successful experiment inaugurated by the coming of Walter Smith to Massachusetts. The account of the contemporary efforts made in England, serve to show that the difficulties and delays experienced here were not peculiar to Americans.

These papers* comprise extracts from The manual for drawing in public schools published by Rembrandt Peale, in Philadelphia, in 1845; from the lectures by Mr. Minifie to the pupils of the Maryland Institute, Baltimore, in 1852; from the articles on The importance of art as a branch of education, by M. A. Dwight, reprinted from Barnard's American Journal of Education, in 1857, and the Report by City Superintendent Philbrick, of Boston, in 1871, in which last, is given a concise history of the development of the public schools of Massachusetts from the earliest date of their establishment by law. The account of Haydon's persistent efforts in England, with the extracts from his biographies and his writings, taken in connection with the like efforts of Mr. Peale, are of value as showing how clearly these artists, recognised the need and the possibility of the art education of the people: while the protest uttered in 1874 by Mr. John Sparkes, head master of the Government Art School in Lambeth, against the errors then existing in the methods of art training as practiced in the South Kensington schools, emphatically confirms the statement made by the foregoing writers as to the importance of drawing from the human figure.

The extracts from Peale's "Graphics," inserted to show the purpose and plan of the instruction which half a century ago this distinguished artist and public-spirited citizen so labored to introduce in the public schools of Philadelphia, as recited at length in the body of this report, find a fitting preface in the following interesting announcement of Rembrandt Peale's forthcoming book for teaching drawing, which appeared about 1834, in the second volume of Dunlop's History of the Arts of Design (a work in two volumes and now out of print). This work, which in its plan bears some resemblance to Vasari's Lives of the Painters, takes up the biographies of the American artists, seriatim. In the biography of Rembrandt Peale occurs the following reference to the work in question:

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* While, in the papers quoted in the Appendices to this Report, all the original cross-heads and sub-titles have been retained, and the punctuation and orthography of the different authors preserved, so far as is permitted by the printers, I have inserted cross-heads freely when, for any reason, they seemed desirable.

I. EDWARDS CLARKE,
Ed. Art Report.

> The ever-active mind of this gentleman leads him to exertions honorable to himself and beneficial to mankind. He is now about to publish in New York a book on the principles of drawing, with illustrations, and he shows the connection between drawing and writing, giving rules which I have seen. This work will entitle him to the gratitude of the public. The book is calculated to enable the student to instruct himself in writing by the same process and at the same time that he learns to draw. It will be eminently useful in schools of every description. The author has displayed great knowledge and much thought on the subject. The transition from drawing to writing is finely pointed out and illustrated, and the work must be extremely useful. I hope it may be adopted in our schools, and thus the ingenious author remunerated. (Vol. II, page 58.)

II.—PEALE'S "GRAPHICS."*

The volume is divided into books, each preceded by a few introductory pages, while the first seventeen pages are occupied by a general introduction, comprising, also, directions for a series of "manual exercises for the education of the eye," and a few elementary definitions of geometrical figures. The following extracts are mostly taken from the several introductions.

The simple geometrical forms, perspective, irregular curves and complex forms, map drawing, and the drawing of the human features, are taught in course. The forms of written letters are analyzed and writing is thus taught scientifically as drawing. The volume of 1866, from which these extracts are copied, contains only four books and two extra pages of illustrated plates; while, in the copy of 1854, referred to in the first chapter of this Report, there is a fifth book entitled "Drawing applied to writing," comprising 31 pages, with 7 additional pages of plates. In this edition each chapter is supplemented by several pages of engraved plates illustrating the topics treated, in all, 41 pages of plates; the whole forming a very complete handbook. The extracts on "Drawing applied to writing," at the close of these quotations, are from this volume.

EXTRACT FROM INTRODUCTION.

* * * Graphics, the art of accurate delineation, auxiliary to writing and geography, teaches the *essential principles* of drawing, which, as a universal language, instantly intelligible to every eye and understanding, is the guide and foundation of much useful knowledge.

Even in the process of its acquisition, it is of signal benefit, by inducing habits of attention, observation, comparison, order, and precision; learning one thing at a time, and that perfectly, before leaving it to begin another. It is manifest that whilst the eye is instructed to analyze the component parts of all forms, the hand may be trained to accuracy in demonstrating the truths of vision. Hence, every child may be advantageously taught the elements of drawing in early life, the most convenient time, when this knowledge can be most readily acquired.

FIRST BOOK OF DRAWING.

Drawing, the natural and universal language of man, should be cultivated as the first guide to all that can be done by hand, and taught in every school, as preliminary to all other instruction; as it affords the best early occupation of children, and lays the foundation of knowledge in accuracy of perception and habits of order and precision; besides its moral influence on the minds of youth and its ultimate advantages in every business of life.

Nothing has been wanting but a simple grammar of its principles, to be put into the hands of every child, with directions that any parent or teacher of ordinary capacity, whether previously acquainted with drawing or not, could explain and superintend, and thus himself more perfectly learn what he is teaching. The experience of fifty years in Europe and America has enabled the author of this work to effect so desirable an object, and to witness its successful operation.

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* Graphics, the Art of Accurate Delineation, a system of School Exercise for the Education of the Eye and the Training of the Hand as auxiliary to Writing, Geography, and Drawing. By Rembrandt Peale. Try. "Nothing is denied to well-directed Industry." E. C. & J. Biddle, Philadelphia, 1866. pp. 105. [Copyrighted by Rembrandt Peale, 1845.]

It is now manifest that every one who can learn to *write* is capable of learning to *draw;* and that every one should know how to draw that can find advantage in writing. Whilst it furnishes the first and most agreeable occupation to young persons by the cultivation of the eye in accuracy of vision, it prepares them not only for the correct and easy acquisition of writing, but renders the study of geography, geometry, and other branches of knowledge more simple and effective; and finally enables them to *see, to know, to direct,* and to do, every thing correctly that depends on form.

Drawing is the most useful of the arts, because it is their *handmaid* in arranging and defining their purposes; instantly rendering intelligible details that would be obscure, and gratifying the sentiment of taste, by giving to objects of manufacture not only accuracy, but the attractive forms of elegance. The language of *form* from the hand of the draughtsman becomes the law and guide of the workman. The rudest materials are rendered precious by its influence, and almost every occupation in life presents occasions for its service. Its utility is universally acknowledged, and every child exhibits its power to invite attention, and its efficacy in conveying instruction. Hence its extensive employment in modern books of education and science.

WRITING BUT A FORM OF DRAWING.

Writing is little else than drawing the forms of letters; drawing is little more than writing the forms of objects. Every one that can learn to write is capable of learning to draw, and every one should know how to draw that can find advantage in writing. Writing is of so much importance that its correct attainment is worthy of every effort; but no effort can be so effectual as one that follows a well-grounded study of *principles,* which are the foundation of that as well as many other arts. It is time enough *then* to commence writing. Children are usually put to writing too young. They cannot begin to draw too soon; and they should not be permitted to learn to write until they are prepared for it by an elementary course of drawing.

The art of writing, to be taught consistently with nature, ought to be treated as *subordinate* to that of drawing, and to all its preparatory acquirements. Writing itself is a sort of linear drawing, and that of stated forms, from which no arbitrary or fanciful deviation is (or should be) permitted. The practice of writing, when acquired *previous* to, and independent of, drawing, spoils the hand and mars its freedom by confining it to a few peculiar forms on a contracted scale, instead of cultivating in it a general ability for all forms.

Another reason why drawing ought to be taught *before* writing is that by the previous acquirement of drawing the *formation* of the letters is greatly facilitated, and all that time is saved which children generally spend in correcting bad habits contracted by a long practice of bad writing, and substituting a good hand for the misshaped and incorrect characters to which they have been for years accustomed.

But of all the arguments that may be urged on this subject, the most important is that the child should learn to do everything in *perfection* from the beginning, which he will not be able to do in writing, unless this acquirement be built upon an elementary course of drawing.*

DRAWING TENDS TO ACCURACY.

Professor Leiber, in recommending drawing as an essential part of education, quotes Goethe, who remarks that those who draw well have more distinct conceptions of what they see, and explain their views with more certainty and effect; he therefore deems it an object of the greatest importance to cultivate in young persons, by means of drawing, a facility and accuracy in discriminating the characteristic forms of objects at first sight; and adds, that persons who never see attentively, and whose eyes convey but dim images to the mind, never become good observers, and seldom close reasoners; nor does their memory long retain those ill-defined images and superficial impressions.

He also quotes the expression of one of the trustees of the Girard College, who says, "Drawing ought not to be left to the option of a scholar; a child MUST learn to draw as it MUST learn to write."

DRAWING CAN BE TAUGHT IN PUBLIC SCHOOLS BY THE REGULAR TEACHERS.

The arrangement of progressive lessons in this First Book of Grammar of Drawing is the result of the author's long experience, demonstrated in the Central High School of Philadelphia, where the most ample opportunity was found to adapt them to the capacity of every one, and to inspire the confidence with which he offers them for more general use, as the certain means of acquiring accuracy and facility in the arts of drawing and writing.

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* Pestalozzi.

Any teacher of ordinary capacity, but more especially teachers of penmanship, can effectively superintend this branch of education; and the more so if they will themselves practise the lesson as little in advance of their pupils, so as to appreciate the importance of each rule and to judge promptly of the pupil's efforts.

Some of the most obvious principles of geometry are employed in teaching the elements of drawing; but they are used entirely with reference to the *off-hand* practice of the art, which requires the compass in the eye. Abstract propositions and needless technical phraseology are avoided, leaving obvious things to explain themselves or to be explained by the teacher, instead of employing tedious demonstrations and bewildering letters of reference.

Let it be remarked, that however simple and elementary this course of instructoni may appear, it comprises every principle in the art, and is not only *absolutely* necessary to the young beginner who would learn to draw, but equally important to be understood by every one who has already practised drawing without the assistance of rules which are essential to insure correctness. * * (Pages 19–23).

DIRECTIONS TO TEACHERS.

1. The graphics are sufficient for self instruction in linear drawing, if the student can read with attention; if not, the teacher, with the book in hand, should see that each lesson is studied according to its intention, and practiced with facility before proceeding to another. Read the directions in pages 6 and 7.
2. The purpose of the first ten lessons being to produce squares, the teacher, but not the pupil, may use a card to examine and show whether the lines and squares are true. This study must be continued until squares can be readily drawn on any oblique line.
3. The great purpose of all the lessons from 11 to 19 being to acquire facility in copying the direction of lines, the pupil may test his drawing by the rule, as explained in lesson 11, page 12. Irregular triangles should be drawn, by or for the pupil, in different directions and proportions, for him to copy of larger size. He should define them, regular or irregular, as in lessons 14 and 15. A regular triangle, if cut out in paper, may be folded in two equal parts, the crease (corresponding with the dotted lines) meeting the base line at right angles. In all cases of right angle the teacher can show, by the corner of his card, if correct or not.
4. The lessons from 20 to 25 being the study of circles, the teacher should require the pupil to endeavor to point out his own faults, and to know the purpose of each figure in its entire form, or in segments of it, by referring to the printed description.
5. In lessons 26, 27, and 28, the pupil's attention must be directed to perceive how these ellipses, or elongated curves, differ from the circle—the longitudinal segments of them being flattened bows, either regular or irregular.
6. In lessons 29 to 32 the pupil must be questioned on the curves or bows, whether regular or irregular, and the direction of the triangular lines, or triangularly situated dots, by which they may be defined.
7. In lessons 33 to 38 it is only requisite to know whether the pupil, in copying them, pays attention to their general character as squares, oblongs, triangles, circles, ovals, and their sections, and the direction of the lines and relative direction of parts.

The observance of the pupil and the teacher being thus far trained, all the succeeding lessons in the graphics being founded on these first principles, and chiefly of direction, triangle, and bow, require no other aid than is afforded in the description of each lesson. The chief attention of the teacher, or superintendent, is to see that each pupil studies one lesson at a time correctly, and the whole progressively. (Page 24.)

SECOND BOOK OF DRAWING.

EDUCATION OF THE EYE.

As oral language depends on education of the ear to discriminate sounds, before the tongue can pronounce them correctly, so the art of drawing requires the education of the eye to discriminate forms before the hand can imitate them with precision; but as the education of the ear, to understand sounds, is of greater importance than even the power to speak or imitate them; so the education of the eye, to improve its capacity for the enjoyment of sight, the beneficent gift of heaven, is more to be appreciated than even the skill of drawing, *the language of the eye*, in its most useful applications. In early life, therefore, as it is the first purpose of education to cultivate the ear by the most *correct utterance* of sounds, it should be esteemed of equal importance to cultivate the eye by the exact analysis and delineation of forms; not only for its collateral aid in writing and other branches of education, and its acknowledged utility in every manufacture and situation in life, but also for its constant influence in the cause of morals, by its refinement of the public taste, and the variety of occupation it affords.

APPLICATION OF FIRST PRINCIPLES.

The rudiments or grammar of the art, furnishing the first training of the eye, should be well understood, and the examples, by frequent repetition, be readily imitated, before the further employment and practical application of the principles can be advantageously attempted. Although the young student may be impatient to advance to the delineation of pictorial objects, this is not the immediate purpose of our studies, and even if it were, it could not be so soon and so perfectly accomplished by any other process. To see and to draw correctly and with facility demands constantly renewed attention to the rules of art, and frequent attempts to ascertain and show that they are correctly understood.

It does not surprise any one that in other studies it is necessary to become familiar with the first principles, and to advance by regular progressive steps; nor should it be deemed less necessary in the art of drawing. Every art requires this preparatory knowledge and elementary practice; but practice not founded on rule only confirms ill habits, which it is better not to acquire than to be obliged to change and reform. It is a good maxim to do one thing at a time, and to do each thing well.

Objections to this apparently slow but sure process have been sometimes urged by young persons who have, they say, already learned to draw. If they have really learned to draw, it cannot be a difficult task to show their proficiency by rapidly, yet correctly, going through this course. If this cannot readily and easily be done, it is a proof that they have not learned to draw with sufficient correctness, and are embarrassed by habits of inattention and inaccuracy, arising from the want of system in their previous studies. In such cases it has appeared that when the student, convinced of his former error, has accomplished the regular course of these studies, he is surprised that he could have been contented with drawings in which if anything was correct it was only by accident, or because it was deceptively *retouched* by the teacher, leaving him no practical advantage from an art which he had not mastered, and could not apply to any specific and useful purpose. (Pages 40–43.)

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PUBLIC SCHOOLS PREFERABLE TO PRIVATE TEACHERS FOR THIS STUDY.

However competent to effect its purpose be this or any other system of graphics, when studied with regularity and attention, this is seldom done in individual and private cases, because the lessons are impatiently hurried through, or the elementary ones neglected for those which are too much in advance to be fully understood. Hence the advantange of making drawing an early and necessary branch of education, especially in the public schools, and to require of the scholar to advance, as he does in other studies, according to the regular system which is prescribed, and even then, from carelessness, or relying too much on his own genius, he will sometimes be disposed to disregard a duty so advantageous to him.

Simple and few as the rules of drawing are now shown to be, yet as they require to be applied to an infinite variety of objects, they must be remembered at every operation of the art, to be taken up as the workman's instruments, and applied to ascertain whether the hand is performing its duty; which cannot be expected if the eye relaxes in its vigilance and the mind is otherwise occupied.

The young student is apt to forget or neglect them, and consequently falls into frequent errors, which are difficult or unpleasant to correct; but when, by the force of practice, the *mind*, the *eye*, and the *hand* all concur in one simultaneous act, the pencil then performs the duty assigned it, with a facility which may be compared with the performance of a piece of music, which seems to proceed spontaneously from the fingers—the result of principle and practice—and with an accuracy without which no beauty of execution can be a sufficient qualification; besides, the teacher cannot know when the eye of the scholar is sufficiently accurate until he is assured by repeated and varied demonstrations. (Pages 53, 54.)

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THIRD BOOK OF DRAWING.

INFLUENCE OF THE ARTS.

The progress of refinement is necessarily connected with the prosperity of a civilized country. Let a community rise but a little above the level of the mere savage in a wigwam or hut, constructed by his degraded wife; or that of the wandering Arab, sheltered by no habitation but his tent, with no better friend than his horse in his career of robbery; let society advance but a little beyond these conditions, and the fine arts have their commencement. The permanent cottage becomes decorated with a portico of rustic columns, and its furniture of useful articles gradually assume elegance under the improving eye of taste.

Who shall take upon him to limit the cultivation of taste and the useful applications which may be made of the art of drawing?

It was under their influence that Wedgewood invested his porcelain ware with such beautiful forms and ornaments, borrowed from the classic taste of Greece, as not only to enrich himself, but to give celebrity to his country.*

We shall draw the line of distinction between the useful arts and what are called the fine arts, which lend their aid to render every useful art more exact in its operation and more agreeable to that taste which is in the constitution of man, who is capable of admiring the order, variety, grace, and beauty in the works of his Creator, which, in their design, color, light, and shade, are perceived as perfect pictures in the human eye. It is a natural instinct to imitate these pictures. They are the language of the eye, and they become the medium of universal communication. (Pages 63, 64.)

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THE FEATURES.

REASONS FOR DRAWING THE HUMAN FORM.

It is agreed among all professors of drawing that the human features afford the most instructive lessons for obtaining accuracy in the practise of the art, because they comprise the greatest variety of curves, and, being well-known objects, they admit of instantaneous judgment on the correctness or defects in the imitation of them. This opinion is so well established that even in the education of engineers their study of drawing comprises a full course of the human features and figure as the most certain means of attaining excellence, even when their purpose is never to draw anything but machinery. (Page 70.)

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FOURTH BOOK OF DRAWING.

DRAWING FROM PATTERNS AS PREPARATORY TO DRAWING FROM SOLID OBJECTS.

Whatever to a casual observer may seem to be the advantage in learning the art of drawing by beginning from solid objects, it is a delusion to suppose that this can be effectual unless the eye and hand of the student be first trained to discriminate between the apparent direction of those lines which constitute the outer and inner forms of objects.

If solid quadrangles are placed square before him, and at the elevation of the eye, it is true he may soon learn to imitate the lines which are perpendicular and horizontal; but the moment the objects or blocks are placed *obliquely* below or above the eye, then the perspective of their boundary lines, to be properly imitated, require an eye and a hand that has been *previously cultivated* to extreme accuracy in the direction of lines and their analysis by triangular proportion upon the same principles as those which are employed in surveying, because the objects must be thus surveyed on a plane as if traced upon a perpendicular sheet of glass held at right angles between the objects and the spectator.

Besides, in examining the necessarily imperfect attempts of beginners from solid blocks, when seen in perspective, the eye of the accomplished teacher must be brought down to the exact station from which each pupil has viewed them, in order that he may compare the copy with the model, and "keep up a careful watch, examining the performances at every stage, that there should be no carelessness."† Unless he does, his commendation may only confirm error.

Whatever success in drawing from solid objects a teacher may display in his private school-room, suitably lighted, provided with every requisite, and with a few pupils at a time for hours together, the case is different when multitudes of scholars are to be instructed in short periods, and without conveniences; besides, it would require in every teacher more practical knowledge than could be readily procured or economically paid for in this country.

It does not admit of doubt that the eye and hand should be first trained to do what the eye and hand of some one has previously done, before it be required to produce original drawings from nature, any more than that an excellent style of writing can be acquired without copying what has already been written.

To derive the greatest benefit from what has been drawn by another as a pattern, it must be placed so as to be seen in the same *direction* as the objects were which it represents.

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* England. † Professor Schmid.

The common practise of laying the drawing or print to be copied flat upon the table, is, therefore, disadvantageous to the young student. It is seen in a false angle, and is liable to frequent change. The only position in which it can be correctly viewed is erect, exactly in front, and still better, if it be fixed *as high* as the eye; as it then most perfectly occupies the place of the object which it represents, and must, obviously, be imitated, or copied, with the same observances in regard to the direction and character of lines, as if it was a solid object at a distance from the eye.

Without touching the pattern, the student may move his pencil in the air *in front* of the drawing or print, exactly as he would in pointing to, in tracing or imitating the direction of lines or parts, and the contour of curves in the solid or distant object itself; and thus learn how to produce similar movements and marks on his paper. Thus real objects, viewed through a sheet of glass,* may be accurately traced on it, and may, of course, be imitated on paper, exactly as they might be marked on the glass, in the exact direction of every line, and the triangular situation of any three parts, producing, *necessarily*, the most perfect perspective.

When the pupil is sufficiently advanced to draw from solid objects, he will analyze them as he would the drawings from them, placed erect before him, by the application of those rules and eye-measures which he has been taught in the study of graphics. (Pages 85–6–7.)

FIFTH BOOK.

DRAWING APPLIED TO WRITING.

PRELIMINARY REMARKS.

The principles of drawing applied to the study of writing, although introduced as the last book of graphics, may be employed at any period of the course, after the eye of the pupil is sufficiently educated, by means of the elementary lessons, and that the Roman capitals can be readily and correctly copied. Without the ability to do this there can be no certainty in the execution of any line, whether in drawing or in writing. The forms and proportions of manuscript letters should then be carefully and deliberately studied with the lead pencil to obtain confidence in the subsequent use of the pen, and the two studies may afterwards advance together.

When the distinct formation of these letters is learned, together with their connection in words, by means of the best copy-slips, as prepared for schools, the business practice of writing is promoted by copying select passages from printed books; thus demonstrating that the student can habitually execute what has been correctly learned. This, at the same time, affords other instruction, and is the most effectual means of acquiring accuracy in orthography and punctuation, *before* the scholar can be prepared for writing original compositions, as the premature practice and careless manner of executing them are often productive of bad habits, inveterate beyond the power of correction.

It is the purpose of this system to teach drawing as auxiliary to writing, and writing as a branch of drawing; yet if the student has already learned to write a good hand, under a judicious teacher, it will still be advantageous to understand the application of the rules of drawing in defining any peculiar characters of writing; and every teacher of writing will find the proficiency of his pupils to be in proportion to the accuracy of their vision, obtained by a previous knowledge of drawing.

WRITING.

The art of writing, now almost as necessary as speech, and often a substitute for it, it is generally supposed cannot be acquired too soon, but may be attempted too soon, without preparatory instruction. At whatever time, however, it is deemed proper to commence the study, professors of penmanship, no matter how much they may differ in their systems, agree on one point, that it is necessary to begin with some simple elements; and most of them confess that the knowledge of the forms to be imitated should precede the effort to imitate them, in the act of writing.†

Writing is little else than drawing the forms of letters. Drawing is little more

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*If the glass be coated with a thin solution of gum arabic and sugar, it will, when dry, receive the marks of a black crayon. Shutting one eye, especially if looking through a fixed *loop-hole* the outlines of near or distant objects may be correctly traced on the upright glass. This is the principle of Otis's perspective instrument.

†Carstarian systems of penmanship, however, inculcate a different opinion, that "it is very improper for the teacher to insist on the pupils forming the characters and letters with precision at the commencement," as restraining freedom of hand; and that "the art of writing depends more upon execution than on theory or *design.*" These are the natural opinions of men not familiar with the principles of drawing.

than writing the forms of objects. Every one that can learn to write is capable of learning to draw; and every one should know how to draw that can find advantage in writing. To attempt to write before the eye has become correct in the analysis of forms, and before the hand can obey the will in imitating them, is to labor against reason by attempting to do what is not understood. Mechanical habits of motion cannot compensate for this want of knowledge, nor can accident accomplish what should be acquired by *design*. The student of graphics who has, in a sufficient degree, attained correctness of eye and readiness of hand, is capable of applying this knowledge to the imitation of every kind of writing, because he has studied all that relates to form in the direction of lines and proportion of parts; and writing requires nothing else, except the production of continuous strokes, and the mechanical pressure of the pen upon some parts of the lines more than others; which may be readily learned from good examples.

"In the present day," says Dean, "the art is acquired by imitation alone. The grounds of it are but imperfectly unfolded in the youthful mind. Letters are formed altogether independent of rules, or in a loose, untutored way, just as the eye happens to light on the model. So that the want of intellectual aid can only be supplied by the long practice of the hand. Thus the powers of genius are locked up, and the edge of infant ingenuity is effectually blunted. Few excel, because few can imitate to perfection; and the knowledge acquired after this manner is precisely the same as that of one pretending to an acquaintance with geometry, who knows not a single axiom or principle on which the science is founded."*

The best treatises on penmanship recommend that the forms of *letters* should be studied *before* an attempt is made to imitate them; yet they seldom seem to recollect that to imitate is to draw them, and that their pupils, not having learned to draw, cannot accurately imitate the forms required. They are therefore compelled to make many efforts, the errors of which the teacher is obliged to point out in detail; if not, the pages of their copy-books generally exhibit each repetition of the copy worse and worse, when it should be better than the previous one; otherwise the writer should be censured for carelessness and waste.

Teachers of writing, by dint of application, and the influence, perhaps, of a good taste, having acquired an elegant style of execution, nevertheless find it a difficult task to communicate a similar taste and an equal spirit of application to their numerous scholars. If they are unacquainted with the art of drawing, by which the contour of every letter may be analyzed and defined, they have no resource but to induce their pupils, by certain positions and oft-repeated efforts, to acquire some habit of execution, as a substitute. As well might it be expected that a manufacturer should depend on the movements of his fingers and the position of his tools, without any knowledge of the forms of the articles he is making. Habits, like fashion, not founded on knowledge and taste, are the slaves of caprice and chance. Let the scholar first study the principles of accurate delineation, which will enable him to draw the exact form of every letter,† and he will soon acquire the power of executing them with facility as well as accuracy. However beautifully the master may write, and however elegant the copies he may set before his pupils, their uncertain efforts are seldom successful, displaying an awkward imitation of every vicious peculiarity, rather than what constitutes the essential merit of the copy.

"Nothing can be done well without time and care, with a determination to accomplish it in the most perfect manner; bearing in mind, that good work in any department of science cannot be done without extreme thought and careful movement; the most eminent masters in the art of penmanship take great time and bestow much labor on their own performances, and any pupil, to equal them, must follow in their footsteps with an inquiring mind, a searching eye, and a carefully moving pen."‡ (Pages 99–104.)

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* Dean's Analytical Penmanship.

† "The figure of the letter must be formed exactly according to his *preconceived* idea of it." Dean's Analytical Penmanship,

‡ Dearborn.

III.—MINIFIE'S MARYLAND INSTITUTE ADDRESSES.

EXTRACTS FROM MR. MINIFIE'S LECTURES BEFORE THE MARYLAND INSTITUTE.*

In the chapter upon the historical development of the movement for the introduction of drawing as a regular branch of popular education, a short account of the various similar efforts and brilliant though brief successes of Mr. Minifie, in Baltimore, Md., follows the detailed description of Mr. Peale's efforts in Philadelphia. The following extracts from Mr. Minifie's published addresses show how intimately, in his judgment, this important study is related to the arts and manufactures of the people.

PREFACE.

In publishing the following short addresses on drawing and design, I am actuated by a desire to call the attention of the public, and of editors especially, to the great importance of introducing this almost wholly neglected branch of instruction into the systems of education of all our schools, both public and private, the primary as well as the high schools; not as a mere accessory that may be dispensed with at pleasure, but as one of the fundamental branches of education in connection with writing and arithmetic, since its importance and usefulness to a very large number of students can hardly be considered inferior to those branches.

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The advantages of drawing and industrial design to our manufactures are but faintly intimated in the following pages. The few statistics presented must be considered merely as hints to attract the attention of others more capable of illustrating the subject. It is one which European Governments rightly consider to have very important bearings on the sources of national wealth and prosperity. * * *

IMPORTANCE OF THE STUDY OF INDUSTRIAL DESIGN.

A cultivation of the art of industrial design would not only afford occupation to large numbers of draughtsmen and women, but it would open many new branches of industry, in which the designs, although absolutely necessary to their existence, would form but a small part of the labor connected with them, and thus afford a constant increase of profitable employment to an almost unlimited extent.

We need have no fear of a want of employment for art-draughtsmen when educated, as the present state of our manufactures will warrant the employment of a large number, and, with the ability to furnish better designs, will come a demand for better and still better, for the improvements will be gradual and continuous.

If it is important to a nation that it should manufacture as many as possible of the necessaries and luxuries of life for its own use and for exportation, it must surely be quite as important, if not more so, to have those manufactures improved to the utmost, so as to compete advantageously with other nations in design as well as in texture and cheapness.

To get good designers, we must take the proper means for educating them; and if we should make drawing a branch of common school education, we should have an opportunity of selecting those who evidenced superior talent for the art, and at the same time by *improving the taste of all* we should create in many an appreciation of the beautiful, and consequently very much extend the consumption of art productions.

A glance at the large statistics of our importations should convince the objector that the cultivation of this art is no trifling matter, but fraught with grave and important consequences to the rising generation.

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*Popular Lectures on Drawing and Design, delivered at the public meetings of the School of Design of the Maryland Institute, at the opening and closing of the sessions of 1852-'53 and 1853-'54, by William Minifie, professor of drawing in the school, author of a text book of mechanical drawing, and an essay on the theory of color. Baltimore. Published by Wm. Minifie, 1854. pp. 58.

In all enlightened communities the public press must be considered as the chief engine for effecting any general reform or improvement. If my efforts in this direction should prove sufficient to attract the favorable action of its controllers toward this movement, then the object of this slight publication will have been attained.

ADDRESS AT OPENING OF SCHOOL, NOVEMBER 2, 1852.

Previous to organizing the school, I propose to make a few remarks on the value of a knowledge of drawing to all classes of a community. * * *

As a caption to my remarks, I will use the old adage, "*that all persons who can learn to write can also learn to draw.*"

I know that this is considered a fallacy by many persons; but with all due deference to other opinions, I still reiterate the statement that all who can learn to write can learn to draw.

I would not be understood to say that all can learn to draw equally well, or that all may become artists—very far from it; all who learn to write do not become good penmen, although its practise is generally commenced in early childhood and continued through the whole course of education.

But I do mean to say that every person, male or female, may acquire sufficient facility in the use of the pencil to render its practise agreeable as well as profitable.

Writing is a limited style of drawing, made up of straight and curved lines of moderate length. Let us examine for a few moments the course generally pursued in acquiring this art.

In a popular Course of Instruction, used very extensively in our schools, I found on examination that one page of the copy book was calculated for the writing or drawing of 200 straight lines, another page for straight lines with a curve at the top; the next for the same number of straight lines with a curve at the bottom. Let us suppose that a boy writes only ten each of these copies, which must be considered a very moderate computation, he would, while writing them, draw 2,000 straight lines, and 4,000 straight lines joined to a curve; this, you will perceive, is a very large practice, but it is only a drop in the bucket compared with the continued practice pursued day after day and year after year.

I am inclined to believe that objectors to the statement I commenced with, lose sight of the very large amount of time spent in the schools in this acquirement; and that if they could see the result of a tithe of the same labor applied to the acquirement of linear drawing, they would arrive at a very different conclusion.

Drawing, when taught early, is of great aid to the acquirement of writing. I have been informed that in the infant and primary schools of Germany, children are taught to draw long before they commence writing, and by this course writing is acquired much more readily and correctly than by the general mode of teaching writing first.

This appears to me to be the most rational mode of proceeding, for, in drawing, the eye becomes accustomed to judge of direction and distance, and the hand to execute with more or less precision in accordance with the judgment so acquired; therefore, when the student is put to writing his first copy, composed of straight, parallel, equidistant lines of equal length, he goes to work understandingly, and can at once judge if a line is incorrectly written. It is the want of this knowledge that renders it so difficult for children to learn to write, and its acquirement in after life will always tend to improve an indifferent penman.

These are some of the reasons for adhering to my belief, that all who can learn to write can learn to draw; and although it is like all other laws, it has its exceptions, yet these exceptions are rare, very rare, and only go to prove the correctness of the general rule. (Pages 9, 10, 11.)

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WHY ALL PERSONS SHOULD LEARN TO DRAW.

And next, I would say that every person ought to learn to draw; for I can hardly recognize any situation in life in which drawing would not be advantageous. I need not refer particularly to the engineer, the architect, the mechanical draughtsman, or the surveyor, because these professions cannot exist without this acquirement. It would seem to be almost as superfluous to speak of its usefulness to persons engaged in any of the industrial arts of life, as its application ought to be sufficiently apparent.

But, unfortunately, popular opinion in this country has generally set down drawing among the superfluities of life.

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This opinion is all wrong, and I have many reasons for believing that public opinion is becoming much changed in this respect. Not the least evidence of this change is the very large attendance here this evening for the formation of our school.

There is no mechanic art in which drawing is not directly applicable to its profitable prosecution, both to employer and employed. An eminent writer on architecture has very truly said "that one workman is superior to another, other circumstances being the same, directly in proportion to his knowledge of drawing, and he that is ignorant of this art must in many respects be subservient to others who have obtained that knowledge."

Every person who has been engaged in mechanical operations will bear witness to the truth of this statement. In my own experience with workmen I have always found that one who understood drawing could work to a much better advantage and with more ease to himself than one who did not understand it; for by this means he had been taught to think and see correctly, which enabled him, by an examination of the drawings at the commencement of his job, to trace the progress and details of the work through the different stages to completion. Such a workman will always obtain better wages, a better class of work, and will retain his situation longer if business becomes dull, than others who do not possess the same advantages.

Without intelligence the workingman degenerates into a mere tool for others to use; and he rises in the scale of usefulness directly as his intellect is cultivated.

For the master workman, the man who carries on any mechanical or manufacturing business, drawing is indispensable to his conducting his business advantageously and understandingly; he is constantly called on for new articles or new patterns in his line of business, perhaps for some new piece of machinery or apparatus to effect with more economy some old process, or to invent some arrangement, to effect some new process in the arts, to bring into use some newly discovered vegetable or other natural product; in fact there is no limit to the calls of this nature in the present day, which may emphatically be called the age of progress and invention.

How can a manufacturer give intelligent instruction to a machinist for some new arrangement of his machinery without a diagram? He may multiply words to any extent, but he cannot be sure that he is properly understood; while a drawing may be a mere sketch, but to the practised eye it conveys the information desired to be imparted, almost as instantaneously as the electric flash, and in many cases it would be almost impossible to convey the same idea in words.

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Now let us ask an intelligent dry goods merchant where those beautifully flowered silks or chintzes are manufactured; he will tell you in France. Ask him why those French goods fetch better prices, and are in greater demand than American or English goods of equal texture; he will tell you it is because of the superior beauty of the designs, and the harmonious blending or contrasting of the colors. Ask him again, why this is so; he will tell you that the Government of France has established in Paris, and in all her manufacturing towns, national schools of design, where a course of drawing is taught, as well as the study of the laws of harmonious coloring. And this is true. France is indebted for her superiority in these and many other manufactures, to her competently educated draughtsmen, emanating from her schools of design, and has thus added a very important item to her sources of national wealth, and to which the United States contributes some millions of dollars annually.

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NEED OF THOROUGH ELEMENTARY TRAINING.

I have a word to say here to the house carpenter, and the machinist: many of the first express a desire to learn hand-railing before they are capable of executing the most simple problem in geometry; you might as well attempt to write music without learning the notes, or the gamut.

The drawing of hand-railing for geometrical stairs embraces some of the most difficult problems in conic sections, and which constantly require the use of the earlier steps in geometry in carrying out the different processes.

It is true that a person may follow out some definite rule for finding the lines without this previous knowledge, but he would be groping in the dark, and if he made a misstep, he would have no means of rectifying it but by commencing anew—he would be like a man I have heard of, who could copy an instrument of writing without being able to read, and consequently the words would convey no ideas to his mind.

The same may be said of machinists, millwrights, and others, who wish to be taught machine drawing without the necessary preliminary studies; this course may produce *copying machines*, but it cannot produce draughtsmen.

Provision has been made for former members in the mechanical and architectural classes continuing in the same; but if you will take my advice, you will all join the elementary class at once, and go regularly through the course; as it is the only way for you to become good draughtsmen. * * * (Opening Address, pages 22, 23.)

ADDRESS AT PUBLIC AWARD OF PREMIUMS, MARCH 22, 1853.

* * * Beauty of design is now so generally considered to be one of the chief elements in enhancing the price and consumption of manufactured articles that the two greatest nations of Europe are spending thousands annually in the education of draughtsmen for this branch of art.

France took the lead in the establishment of National schools of design; she has reaped and is still reaping immense benefits from them; her annual expenditure of thousands is returned to her in millions; her artists, men and women, are thoroughly educated, each to his or her particular branch of art, and the world pays tribute to their skill by purchasing their tasteful productions at a much higher rate than those of their rivals.

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England has been making strenuous exertions for several years past to recover this lost ground. Her National School of Design in London, with its branches throughout all her manufacturing districts, is fostered and aided by the British Government like a pet child; money and every other adjunct necessary to perfect the system are freely bestowed and no means are left untried to bring up to the highest standard the artistic element of her manufactures.

In this country we cannot look for Government aid, but must depend entirely on individual effort or on that of institutions like our own, and we shall surely be left behind in the race, unless those efforts are patiently, vigorously, and perseveringly pursued.

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ADDRESS AT CLOSING OF SCHOOL OF DESIGN, APRIL 7, 1854.

To exhibit to you the thorough course of instruction pursued in the education of designers, I propose to read to you some extracts from a report made to the council of the Government schools of design of Great Britain on the 7th of October, 1845, by Mr. Poynter, who had visited France as a special agent of the council, for the purpose of examining the schools of design in that country and reporting on the course of instruction pursued, and on such other matters as it would be desirable to introduce or avoid in the English schools. * * *

ENGLAND'S LACK OF SKILLED DESIGNERS.

* * * England, to protect her silk manufacturers, had, before 1826, prohibited the importation of French silks; but, having no variety of patterns to imitate and no schools for the education of designers, her productions were worth 40 per cent. less in foreign markets than similar productions, as to texture, of the French looms, and all this loss (which, it must be remembered, was on manufactures whose product amounted to *millions of pounds sterling*) accrued from the want of proper designs; as Mr. Ure says in another part of the same article, that the machinery of the English silk-mills of that period was superior to that of any other country.

British statesmen are very slow to acknowledge inferiority to other nations in any respect; but once recognized, or even suspected, vigorous efforts are soon made to remedy the defect; hence the establishment of the schools of art, over which the council presides.

The education of an artist is progressive, it requires time and continued study: years must elapse from its commencement before he can be considered capable of producing compositions of taste and beauty, worthy of competing with others who have made the subject a life study.

To expedite this improvement it is desirable that he should be able to avail himself of the best course of instruction, and of such other adjuncts as experience only can fully develop. To get the results of the experience of the French schools, was the object of Mr. Poynter's mission. They are embodied in the following extracts:

MR. POYNTER'S REPORT ON FRENCH SCHOOLS OF DESIGN.

"The course of instruction at Paris is divided into three main branches: 1st, the figure; 2d, ornament; 3d, architecture and geometry. These three courses of study, subdivided and classified, are taught on alternate days in the order named, a day being devoted to each.

"The students are admitted free of charge, and no pledge is required from them of their exclusive devotion to any branch of industrial art. To extend a sound knowledge of art in general is held to be the best mode of securing a supply of artists for industrial purposes. The only condition to which pupils are bound is that, if they remain in the school, they must follow up the whole course of study prescribed by the regulation. Exceptions are made in favor of artisans who wish to take advantage of the means afforded by the school to increase their knowledge and improve their taste.

ART TRAINING OF WOMEN IN PARIS.

"The female school has been established for a double purpose; it is calculated not only for the improvement of the arts usually practiced by females, but some prominence is given to the object of extending the resources for the exercise of female industry. It is considered that the employment open to females, and for which they may be qualified by instruction in the art of design, may comprise designing and working in embroidery of every description, lace, gimp, fringe, and every sort of worsted work; designs for everything relating to jewelry, engraving, and enamelling in gold; fancy works in card and paper, and the patterns for the papers employed in them; pictorial toys for children, dissected maps, puzzles, etc.; porcelain paintings in all its branches; lithography and engraving on copper and wood.

"In order to carry out the intentions of the Government in this respect, the course of instruction in the female schools includes the figure, landscape, animals, flowers, and ornaments.

SIMILAR SCHOOLS IN THE FRENCH PROVINCES.

"The provincial schools in France are not necessarily regulated by that of Paris; and a view of the system pursued at Lyons, where the first of the provincial schools has been carried out to its utmost capabilities, with the most successful result in effect upon the peculiar manufactures of the place, cannot fail to be regarded with interest.

"But the success which has attended the school of Lyons is mainly owing to the appreciation of its importance by the authorities and inhabitants of the city itself, to the energy with which they have promoted it, and the liberality with which they have contributed to the fund for its support.

DRAWING FROM THE NUDE HUMAN FIGURE THE BASIS OF THE TRAINING OF DESIGNERS.

"The present course of study pursued in the school is as follows: The elementary study of the figure, drawing the figure from the round and from the living model. Hence, the pupils enter the classes for drawing and painting flowers, and after passing through the class of architectural ornament, combined with geometry and perspective, finish the course of study, which is obligatory on all who remain in the school, by a class of composition applied to manufactures.

"Thus it will be seen that to *perfect the taste of designers and manufacturers, for that is the great point to be attained,* a sort of inversion of principle is adopted, beginning with the figure, thence passing to flowers, thence to ornament in general, so as to prepare the student with a sound artistical education for finishing with the course of composition peculiar to the silk manufactures.

"To give instruction in this course there are ten professors, including one for anatomy, one for etching, one for geometry and perspective, and one especially for flower-painting.

"The annual expense of the establishment amounts to about 40,000 francs, of which 30,000 are supplied by the city, and 10,000 by the Government.

"The school is open five hours every day. The pupils enter at the age of fourteen, and are required to be able to read and write, and do the first five rules in arithmetic; during the first month, they draw for the purpose of ascertaining in which class they shall be placed. They are allowed to attend on trial for two years, before being dismissed for incapacity.

"The object of the Government in supporting the provincial schools, is to develop art in such a manner, as to enable the pupils in quitting them to exercise a profession; each town directing the final studies of the pupils, more particularly to the predominant manufacture; and the system upon which the schools are worked is calculated not only to direct the hand and eye of the pupils, but also their taste. For this result the study of the figure is found, from practical experience, to be the most instructive."

We can perceive from these extracts, how comparatively small are the expenditure and the means employed, to effect such important results on the manufactures and exports of a great empire. It may, however, be said that this is only one of many schools of a similar character distributed through the different towns of France, and therefore only part of the means employed for the purpose.

It is true that many other schools of a similar character do exist in France, and the report which I have referred to states that the object of each of the provincial schools, is to direct the final studies of the pupils more particularly to the predominant manufacture of the town in which it is situated.

Lyons is the chief seat of the silk manufacture in the empire, and the final studies of the pupils in this school are directed to compositions for this branch of manufactures. Doubtless many draftsmen who were educated at other schools are engaged in designing for this purpose; but it is also fair to infer that many of the students of the school at Lyons devote their talent to other branches of art, so that we may fairly conclude that this school educates sufficient draftsmen for this branch of art.

It must also be taken into consideration that the amount of the silk manufactures imported from France into the United States forms but a small portion of the quantity manufactured at Lyons. You will therefore perceive that the comparison I propose to make between the expenditure of the school at Lyons, and the value of the silk piece goods imported from thence into the United States, may be taken as a very equitable comparison between effort and result.

The Congressional tables to which I have referred show the amount of textile fabrics imported from France for one year, to have been over eleven millions of dollars, seven millions being for silk piece goods.

Let us assume that only one-seventh of this sum, which is one million of dollars, was expended in Lyons for the labor of the artists in making the designs for those goods, and for the extra labor paid the artisans for carrying them into execution; we will also assume this amount to be the total annual benefit resulting to the city from the school.

The annual expenditure of this school is reported to be about 40,000 francs, which at 18 cents to the franc is equal to $7,200, which gives a proportion of 4 francs or 72 cents expended for education, for every hundred dollars of additional employment resulting from this education; this you will perceive is a very small fraction, not three-fourths of 1 cent., yet small as it is, there can be no doubt that the real proportion of cost to result, is very much less. In the absence of detailed statistics I have made this supposititious comparison, which is altogether inadequate to convey even a faint idea of the benefits conferred on Lyons by its school of design; as the amount of silk goods manufactured there for the year 1835 was 142,000,000 francs, or $25,560,000.

I have asumed the benefit to the city, as only one million dollars expended for extra abor for one year.

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TRIBUTE MONEY PAID BY THE UNITED STATES TO EUROPEAN DESIGNERS.

It is not only one million, but many, very many millions, that we pay to Europe annually in consequence of the superior education of their artists.

The report of the Secretary of the Treasury made to Congress a few days since, shows the amount of textile fabrics imported into the United States for the year ending the 30th of June, 1853, to have been about $102,000,000. A little over one-third of this sum was for silk manufactures, which amounted to $36,000,000; and about two-thirds of this last amount was received in silk piece goods, including embroidered and tamboured work.

These figures give conclusive evidence of the immense value of this branch of manufactures; and the quantities imported must increase, unless some means are taken for the education of a similar class of artists in this country, who, being brought up in our midst, may be better able to know our wants and to suit our tastes.

It cannot be asserted that our people are destitute of talent, energy, or taste for such employments; we have only to look around to find numerous evidences to the contrary.

American machinery is equal in combination and finish to that of any other country; many of the most important inventions in manufacturing machinery have emanated from Americans; those inventions required judgment, imagination, perseverance, and the power of concentrating the ideas; and we have only to refer to the productions of Americans in the fine arts of statuary and painting, to prove that the American mind is not destitute of taste of the highest order.

CORRECT TASTE THE RESULT OF KNOWLEDGE.

Taste is a faculty that requires education for its development. An old adage says, "There is no accounting for taste," and it is quite applicable to uneducated tastes, which should rather be called *likes* and *dislikes*.

With cultivated taste the case is different, particularly when applied to art productions, whose designs require fitness, beauty, economy of means to the intended result, and harmony of conception and coloring. A design combining those requisites appeals to the judgment; and the educated eye cannot but approve it.

The means required to improve the taste are the same as are necessary for the education of students of design. Both must commence with a course of outline drawing, which should teach the eye to see correctly, as well as the hand to execute with facility; to be followed by a course of geometry, perspective, and coloring, and which, as the report we have quoted says, has been developed to their utmost capabilities in the school at Lyons.

We have, therefore, a good example to which we can refer for information on this important subject, as we may be well assured that the results of their experience for so many years, during which their system has been gradually developed to its present state, may be adopted by ourselves with the utmost confidence in its success.

TECHNICAL SCHOOLS OF DESIGN DESIRABLE.

In order to carry out such a course of instruction, we must have permanent schools established, to be open all the year, in which the students may prepare themselves for the profession by devoting as much time for its attainment as apprentices devote to a trade, or as students of law or medicine to obtain their diplomas.

The course of instruction adopted in this school embraces the same studies as are taught in the Paris school; but how widely different is the time devoted to its acquirement! For example, the French student on entering the school draws for one month, merely for determining in what class he shall be placed, and during this month he devotes more time to the subject than one of our pupils does in a year.

With our limited time (*i. e.*, in the institute classes) we cannot expect to produce artists capable of designing for our manufacturers, but we can do much in developing talent and in giving it a proper direction, and also in improving the knowledge and taste of all who attend the classes.

WHY WOMEN SHOULD BE TRAINED IN ART INDUSTRIES.

There is one branch of this report on the Paris school which requires our most serious attention. I refer to the female department and its twofold object—for the improvement of the arts usually practised by females and, also, for extending the resources of female industry, which, the report says, has hitherto been too narrowly restricted. Numerous arts are named, to which female effort may be profitably directed.

With us the necessity for extending those resources is much more urgent than in France, where females very generally fill situations in stores as saleswomen, and sometimes even as bookkeepers, which are here almost entirely filled by the other sex. * * *

The French schools are supported by the Government and are free to all without charge. Here, it is useless at present to expect Government aid. We must depend on individual or associated efforts for the extension of schools. * * *

WHY AMERICA SHOULD TRAIN INDUSTRIAL DESIGNERS.

At the same time, by improving the art of design, they will give a new impetus to manufactures, which would soon enable us to retain, for the employment of our own people, some portion of the immense sums annually paid for the productions of European labor, which could just as well be executed at home.

We have a climate embracing nearly all temperatures from the torrid to the frigid zone, which enables us to cultivate successfully most of the staples used in textile fabrics. The silk worm thrives well over a very large extent of country, and the raw silk can be raised to almost any amount.

We have inexhaustible mines of the metals and of coal—the great prime mover of the steam engine, which effects more wonders than the *Genius* evoked by Aladdin's lamp.

With all these advantages and with manufacturing machinery unsurpassed we are indebted for our designs almost entirely to imported patterns or to the emigrant graduates of foreign schools.

This ought not to be. We might take a lesson from the experience of English manufacturers in this respect, who, having at the time the best machinery in the world, and the fabric of their manufactures equal to any, allowed their goods to depreciate 40 per cent. below those of their rivals.

This subject has been but seldom brought before the people of this country, and few have consequently ever thought much about it. Its importance therefore is very much underrated; now and then we meet with a paragraph in the public prints in relation to the matter; but they have been few and far between. Lately, however, such paragraphs are becoming longer and more frequent, giving evidence of an awakened interest, which will not easily be put to sleep if its importance can be duly recognized.

In using my slender efforts towards this consummation, I would call upon our manufacturers, as the persons most directly interested, to be foremost in the good work; let them start such schools for both sexes with liberality, and then call upon our statesmen and capitalists for aid.

The sooner we make a beginning the sooner may we expect to use our own designs in our manufactures, and endeavor to give them a national character by using as models the natural objects peculiar to our country. (Third address, pages 44–58.)

IV.—DWIGHT'S ART ARTICLES IN BARNARD'S AMERICAN JOURNAL OF EDUCATION, 1857.

A series of articles urging the value of the study of art as a branch of education, written by M. A. Dwight, were published in Barnard's American Journal of Education during the year 1857. These were afterwards reprinted in a pamphlet of some forty pages.

As illustrating the influences that were long operating to prepare the public for the recent educational movements in the direction of industrial and artistic training, these articles published so long since are significant.

The importance of thorough elementary drilling in drawing, as well as the value of art training for its direct influence on the industries of the people, are emphatically stated; while the duty of affording to the school children of the United States opportunities for obtaining such education in art, is pressed upon the attention of educators.

The following extracts illustrate the general tenor of the articles and continue the historic sequence of the movement as first initiated by Master Fowle in Boston. The spirited account of an exhibition of pupils' work by a teacher of picture-making drawing, then the only drawing taught, recalls some similar work shown at the Centennial; proving the longevity of error!

From these articles it is clear that more than a quarter of a century ago, this writer not only understood the value of the study of drawing to all school children but had also as correct a conception of the practical method of instruction in this study as Walter Smith himself; yet, as was the case in Baltimore when Mr. Minifie labored in the same field, the community were either too ignorant of the subject, or too indifferent to the interests of their children, to profit by these suggestions and examples.

Will it be any better a quarter of a century hence? Let us hope that it may be; though the obstacles ignorance and indifference oppose to progress still seem, at times, almost insuperable.

ART: ITS IMPORTANCE AS A BRANCH OF EDUCATION.

By M. A. Dwight.

The great advance that has taken place in the standard of knowledge in our country is regarded by all interested in the subject of education as marking an important era. In our common schools, especially in large cities, the standard of intellectual training in all studies pursued is of the highest order; but to complete the system so well approved, one branch more, one too long neglected, must be included in the list of studies, and rank in importance with the rest; that is, the art of drawing. On many occasions, when urging the importance of the study, the response has been, "Of what use is it?"

By way of answering the question, let us go back to the earliest period of which we have any record, and consider the beginning of things, when we find, so far as we are able to learn of the rise and progress of art, that all nations have practised it in some form; that it arose with the wants of a people and kept pace with their national progress and cultivation, the useful arts giving rise to the ornamental, and the ornamental in turn perfecting the useful, until the skill of the artist contributed materially to their wealth, both individually and nationally. (First article, opening paragraph.)

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SCHOOLS OF DESIGN DESIRABLE.

Schools of design, like our other schools, should be open to the public without reference to any one class of people, and such instruction given to all scholars as will prepare them to enter any department of art, according to their several abilities, and the school will soon take a high rank, and meet the expenses incurred.

An industrial department should be a part of the establishment, where those scholars can enter who wish to render their skill of pecuniary profit to themselves. This department should not be limited in the branches pursued, because among those who enter it few will have the ability to excel as designers. The same may be said of those whose wealth gives them every facility for study, and, at the same time, makes them independent of all exertion. Why does not every graduate of a college become a prominent man and an author? For the same reason that every scholar instructed in all that belongs to true art does not make a designer. God has not gifted all men with great abilities, and each one must work according to that which he hath, and not according to that which he hath not.

Of the graduates of such a school, some will become designers, some teachers, some botanical draughtsmen, others portrait painters, miniature painters and teachers. Yet none can excel in his chosen department, who has not received as thorough instruction in the rules of art as would be given in the rules of mathematics to a school of engineers.

We are often asked, what is the best course of instruction in art?

Our only reply is, a thorough knowledge of the rules and principles, beginning at the foundation, combined with such practice as will not only give to the scholar skill of hand and accuracy of eye, but also make these rules his own. First the rules of form must be mastered, then of light and shade, and then of color.

Having mastered these first and fundamental principles of art, the scholar is prepared to learn their application in composition and design, from the highest department of art to the lowest; for the same rules are essential to every branch from the highest ideal composition to the simplest design for the artisan.

An experienced teacher will soon discover in what branch of art the scholar will most excel, and direct his studies with reference to the talent developed. Success with each one depends no less upon natural ability than upon right instruction.

THOROUGH ELEMENTARY TRAINING ESSENTIAL.

It is the same with the study of art as with that of mathematics. If the scholar is not well grounded in the first principles of arithmetic and made familiar with numbers, he can make little or no progress in algebra or geometry; and in the study of mathematics no progress is expected unless the scholar goes on regularly from step to step. When the same importance is attached to method and accuracy in teaching the first principles of art, we shall have artists who will produce works of intrinsic excellence. Without it they can never rise above mediocrity, either as historical painters or designers.

PICTURE MAKING DRAWING.

We lately visited a collection of drawings that were open to the public for the purpose of displaying the progress of a school devoted to that art. There were about a hundred pieces exhibited, the majority of them fancy heads shaded in black chalk. They were, without exception, faulty in drawing, the shading as hard and dry as possible, and absolutely deficient in its most essential requisite—transparency. The execution of each one marked it at once as a beginner's work. Indeed, this was so manifest, that it was quite superfluous for the spectators to point to the production of some favorite acquaintance and say, "Just look at that; she has taken lessons only three months!" Would a music teacher give to a beginner, one who had taken lessons only three months, a difficult opera to learn, with the expectation that she would perform it creditably? And if he were to do anything so injurious to the success of his scholar, would the parents sanction it by continuing his services as teacher?

The successful drawing of a head belongs to an advanced stage of progress. The representation of stiff, inflexible features, where there is no indication of muscle underneath the surface, is hardly pardonable in the work of a tyro. But such combinations of wooden mouths and stony eyes, all set awry, representing what is called "the human face divine," grates upon the cultivated eye like the harshest discords of a sound upon the cultivated ear; and in each case the offended sense is forcibly closed or withdrawn to escape further molestation.

If fault is found with such work, it is at once excused on the ground that the scholar has but just commenced the use of the pencil. Suppose a teacher of mathematics should call forward a class to exhibit their skill in demonstrating a problem in Euclid, and then excuse all blunders of the scholars by stating that they were beginners, not yet having mastered simple arithmetic. This would be quite as rational and pardonable in the teacher of mathematics as in the teacher of art, and we earnestly hope that the time will come when the public will realize it.

If a teacher of drawing really knows what belongs to art and good teaching, he must, in making such an exhibition, confide most implicitly in the incompetence of the public to judge of the work of his scholars. If, on the contrary, he is himself as ignorant of the subject as the exhibition would lead one to suppose, the sooner he is discarded the better; because, in the first place, this system of omitting all elementary instruction, giving his scholar something to do that will make a show, rather than secure accuracy of eye and skill of hand, fosters and encourages the false notion already existing in regard to the subject, and which must be dispelled before any real improvement is made in this important department of instruction. In the next place, such a teacher essentially retards the progress of art, by promulgating a style so ordinary that it borders upon the vulgar. In the article on the subject of art published in this journal ("Drawing in schools of art"), the writer speaks of the importance of using models of the highest standard. The same principle pervades all departments of instruction. A teacher of belles-lettres might with as good reason adopt coarsely written works for the use of his classes as the teacher of drawing bad models.

It is difficult for one who is not familiar with the practice of art, as well as the general theory of the subject, to realize the deleterious influence of such a school. Suppose the leader of a church choir in a country village should go to some city and establish himself as a music teacher, opening an academy for the purpose of collecting under his instruction a large class of scholars for any length of time, and should then be followed by a musician of refined and cultivated taste and a master of his art, how long would it be before he could undo the work of his predecessor, and establish a higher and truer standard of teaching and practice?

A mediocre teacher of art, who is so ignorant of the subject that he attaches no importance to the inculcation of rules and elementary practice, is as much out of place at the head of a school of art as an uneducated village chorister would be at the head of an academy of music.

The study of music has been so thoroughly cultivated, that at the present time there is little danger of such an imposition. The study of art seems the last one to be rescued from this great evil. Some twenty years since a lady, by way of praising a friend, remarked to a Parisian, "She speaks French very fluently." "Yes," he replied, "but she uses expressions such as no true French lady would ever allow to pass her lips. She has learned her French of a *femme de chambre*."

Ignorance also praises and commends the efforts of the pencil under teachers of the same common stamp, while those who truly understand the subject look on and lament the blunders and bad work to which both the scholars and their friends are perfectly insensible.

Our schools of design have done nothing toward the accomplishment of their ostensible object, neither have they done anything for art proper. Nothing has ever contributed so much to the interest of art and artists in our country as the Art Union. By distributing pictures, scattering them far and wide, a universal taste for pictorial works has been excited and seeks gratification.

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The next step in our progress must be to educate the taste so universally excited by the efforts of this institution. Our people are beginning to feel their ignorance of the subject and are seeking information.

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To diffuse this knowledge, the importance of which is so universally acknowledged, we need good teachers; and to send out scholars thoroughly qualified to impart it should be the first object of our schools of design. Then the emulation excited by an appreciative and discriminating public, than which no stimulus can be more powerful, will call out the best powers of the best artists, when we shall successfully compete with European skill in every department of art.

We are not wanting in artistic ability, but without the requisite instruction we must forever remain in the background, taking the low rank of followers and imitators.

It is with nations as with individuals, "those that follow must always go behind;" an imputation that we must bear until educationists take an interest in the study of art, introduce it into all schools, and require that it shall be as well taught as others pursued. They will then be, as they have already been, the benefactors of their age and their country, and produce a new era in its arts and manufactures. * * * (Third Article, pp. 27–30.)

EUROPEAN ESTIMATE OF THE IMPORTANCE OF A KNOWLEDGE OF DRAWING.

Hon. Henry Barnard, in his work entitled, "Education in Europe," shows the importance attached to the study of drawing by the educated and the educators of those countries; and if it is so important to them, is it not equally important to us, who aim at the same standard of attainments and, if possible, higher? Those who have given attention to the subject can see and understand the advantage that foreign artisans have over our own, from the training of eye and hand, that the study and practice of drawing has given them. In scientific research, too, they have the advantage; for in Europe every department of scientific study has its scientific teacher of drawing, and without the same advantage can we compete with them in progress?

The great mistake with us has been in regarding the art of drawing as an isolated pursuit and of no practical value; as an accomplishment, that only the few could acquire, the only end and aim of which is to make pictures, to be purchased at great prices by those whose wealth enables them to indulge in the ornamental; mistakes that have naturally arisen from the profound and universal ignorance of the subject.

VALUE OF EARLY INSTRUCTION IN DRAWING.

Another mistake is, in postponing the commencement of the study until the scholar has passed the age when thorough practice in the rudiments can be required and perfect ease in handling the pencil can be secured.

The child who is expected to excel in playing the piano is required to commence very young, and pursue the study with diligence for a term of eight or ten years at least before the parents' ambition is satisfied with the display of skill; when the same child is, in the finishing year of school education, placed under a drawing teacher, with the vain and unreasonable expectation that the result of six months' effort will be "a picture to carry home." If at this age, an attempt is made to give anything like a thorough training, the scholar rebels, the parents are dissatisfied, and the teacher is pronounced incompetent and ill-qualified for his place. Realizing this, he will either leave it in disgust or pander to the false ambition of fond parents, deceiving them with a performance of his own, which they in their ignorance receive as the work of the scholar.

The result is, parental pride and vanity are gratified in this exhibition of skill accredited to their daughter's account; she is flattered by the encomiums it calls forth, and to their friends, who are equally well informed on the subject of art and its requirements, the teacher is duly recommended as eminently worthy of patronage.

To overcome this ignorance of art, and the evil is not a light one, there is but one way, and that is to give this branch of study its proper rank in schools, beginning with the State normal. No change can be effected in public opinion until the public are as well educated in this department of scientific skill as in every other. To accomplish it will be a work of time, for to secure complete success we must begin with the young, and train them in sure and gradual progress until they have mastered both the principles and practice of art.

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HOW DRAWING SHOULD BE TAUGHT.

The first elementary lesson should be in the handling of the pencil in preliminary exercises, that shall enable the scholar to commence with regular lessons successfully. In the delineation of his lines three things are required—viz, accuracy, force, and freedom—all of which must be constantly inculcated, till, in the imitation of any object or group of objects, the student has acquired sufficient skill to give the designed effect without the aid of his teacher. He may then commence with the practice of light and shade, which should also be studied on the cast, accompanied with instruction in the principles that govern the distribution of light and shade upon a single object, or a group of objects.

If the scholar is advanced too hastily, the disadvantage is never overcome; every elementary step must be sure and, of course, gradual. Hence the importance of commencing young, that there may be time enough. First, let form be mastered; then light and shade; then color; then composition; for this system, whatever may be the natural ability, is the only royal road to excellence.

It has been already stated that no student of drawing should stop short of composition; and to acquire the ability to compose with ease and skill, the practice from the commencement should be drawing from the cast, rather than from the paper model (flat copy?), because, in the *first* place, with this method of study and practice, the teacher can lead his scholar on from step to step from the outset, until he is prepared to draw from life. In the *second* place, by commencing with the cast, he draws with more confidence and independence ever after.

On the contrary, commencing with the paper models gives a feeling of timidity with regard to drawing from objects that is not readily overcome.

In the *third* place, in making his own delineation of an object, instead of a mechanical copy of a drawing placed before him, the scholar feels that he is really producing something new, which increases his interest in the study, and is a constant stimulus to improvement. If he has any genuine taste for art, he may in this way be gradually advanced until he has thoroughly mastered the art of composition, when he is prepared to design according to the ability with which his Creator has endowed him.

By commencing with the cast is not meant that of the human figure, which is too difficult for a beginner. Architectural ornaments, such as are used in house decorations, furnish a variety of simple curves, as well as combinations of curves, that afford excellent studies for the first lessons.

These should be selected with care, and none adopted for the purpose that are false in taste and skill, because the scholar should be trained from the beginning to learn the laws of unity and harmony, which are indispensable to the composition of every subject, however limited.

The difference in the progress made by the scholar in using a series of good and correct models, or those that are poor and faulty, is incalculable. For this reason, the selection of models should never be a question between scholar and teacher, or parent and teacher, for art is governed by established rules as simple, and by scientific laws as arbitrary, as those that belong to music or to geometry. In other studies pursued, no difficulty of this kind occurs, for the teachers employed in the various departments are supposed to be better qualified to judge than the scholars.

DRAWING SHOULD BE MADE A REQUIRED STUDY.

But, alas! for the teacher of drawing. In the first place, all children are allowed to say whether they wish to learn to draw, and their own inclination decides the question. This study being the only one in regard to which they are left free to choose, shows them at once that no importance is attached to it. If they object on the plea of having no taste for it, no one regards it as evidence of a deficiency in natural gifts; but what parent ever allowed a child to say that they had no taste for music. Ear or no ear, taste or no taste, the master is summoned to make an accomplished musician of the subject given him; and ear or no ear, taste or no taste, the child is made to work with indefatigable diligence, and the lessons are steadily pursued, intermingled with alternate tears and remonstrances, which avail nothing with the parent, for musical skill commands a little coveted *éclat*. This the scholar does not always secure, but, as a reward for the application made, her individual pleasure in after life is greatly enhanced by the gratification of a cultivated taste, in the frequent opportunities afforded of listening to fine music.

In the next place, if latent talent is developed with the growth, the years that should have been devoted to the acquirement of elementary knowledge and skill in this, as well as in other studies, have passed by. But during that period the eye and taste have become somewhat cultivated, and if the art of drawing is then attempted, the very slow progress made, combined with the feeling of disgust at the puerile effort of skill, will discourage all who have not more than an ordinary share of ability.

DRAWING SHOULD BE TAUGHT SCIENTIFICALLY.

Before closing I would beg leave earnestly to recommend that drawing should be taught scientifically in every school whereit is taught at all, more particularly in the State normal, the ostensible object of which is to prepare teachers for all departments of instruction. Our people have yet to learn that the rules of art are founded in science, and that drawing, to be taught successfully and usefully, must be taught scientifically. The author of an exceedingly interesting and valuable article published in the "American Journal of Education," entitled "Science and scientific schools" (Vol. II, p. 354), in speaking of the ancients, says, "they had, it is true, built magnificent temples. But the taste of the architect, and that of the statuary, or poet, is simply an emanation from the divine breath within man, and is cultivated by contemplation, and only surface contact with nature." Will the writer pardon the liberty taken in commending to his attention the science of art? He will find, on understanding it, that magnificent temples and beautiful statuary, as well as all works of art, are the result of study and scientific skill, and never in any instance designed and accomplished simply by what he considers inspiration, and mere "surface contact with nature."

In the same article (p. 369), the writer speaks of the result of the Crystal Palace Exhibition in London, when the English found, by comparing the productions there exhibited with their own, that the manufactures of other countries surpassed theirs in the display of artistic skill—the skill which of all others gives the greatest advantage in the great marts of the world, for the artistic will eclipse the mechanical, even in its greatest perfection. And what but scientific art gives the French artisan the advantage over all others, and in all markets commands the preference for their productions?

In the comprehensive plan given in the article referred to, which embraces nothing superfluous to a thorough education, "drawing and the history and criticism of the art" are included. If the art of drawing is worthy of a place in the list of studies pursued, is it not worthy of the same thorough attention as the rest? And if art is not to be studied scientifically in a scientific school, why should it be introduced at all?

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STUDY OF ANCIENT ART AN ESSENTIAL AID TO STUDY OF CLASSIC LITERATURE.

It is true, as he says, our young men go to Germany for the purpose of acquiring a higher mental cultivation than the facilities afforded them in their native land enables them to gain at home; and what is it that marks so decided a difference between the advantages afforded them in European institutions and those in the United States? Is there any point of difference so material in the two systems, as that of art culture, which is there considered as of first importance and here entirely overlooked?

In Germany no student of Greek is expected to understand the ancient classics until he has attended lectures upon Greek art and become familiar with the antiquities collected in their rich museums, and that he may understand these lectures, he is first taught the rudiments of art at school with elementary practice.

In all pursuits we Americans look at the practical and the profitable, and in examining the statistics of art we find that in Apelles' time, when every well-educated Greek was well educated in art, pictures brought the highest prices to living artists, for then Apelles sold his pictures of Alexander grasping the thunderbolt, which was deposited in the temple of Diana at Ephesus, for $211,000. Corréggio, who died in 1534, executed his "Saint Jerome" for about $2,000. In 1749 the King of Portugal offered $90,000 for it. When the French had possession of Parma the duke vainly offered $200,000 to redeem the same picture from being sent to Paris.

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SOME KNOWLEDGE OF ART REQUISITE FOR ITS HIGHEST APPRECIATION.

Many who go abroad for the purpose of seeing ancient works of art are incapable of appreciating them, because in their education this branch of study has been entirely neglected; still, they claim to be judges, and are ambitious to procure fine pictures and statuary, the possession of which will prove their superior taste and judgment. In this they tacitly acknowledge the great importance attached to the subject, and at the same time unwittingly betray their ignorance, which is the necessary consequence of our having no schools of instruction. Our Government pays great prices to native artists for their pictures, and thus by voluntary patronage distinguishes them above their fellow-countrymen, yet no importance is attached to a school of art. The great inventive power of our people is freely admitted by those of other nations with whom we come in competition, but our productions are less finished than theirs, because the inventors have received no artistic training, and of course their work suffers in the comparison.

Impressed with the vague idea that in the pursuit of art there is some radical defect, one says, "All that our artists need to enable them to compete with those of Europe is a liberal patronage." Another says, "If we would have art succeed in America, we must have large public galleries, thrown open to the public." A third says, "Artists can never do anything here; they must go to Italy, the land of art." But the true question is, Shall art be taught to our people scientifically and with the same care as other studies pursued? or shall it be condemned as utterly useless, and therefore unworthy the attention of educationists?

On this point let our educationists decide, and act conscientiously for the good of the young who are to perpetuate our Republic, and protect its future interests, and for whom they have in all other branches of education acted so judiciously and energetically. Let not those who are to follow after them, and on whom the same duties must devolve for the interests of their successors, while grateful that so much was done, mingle their gratitude and praise with reproach and regret that in the education given them, one valuable pursuit was neglected, one important thing omitted, a study which of all others opens the way to profit, to honor, and to distinction, both individual and national." (Fourth Article, pp. 33-38.)

V.—SUPERINTENDENT PHILBRICK'S REPORT, 1871.

In the following report, made to the school committee of Boston, by Superintendent Philbrick, in 1871, the supreme necessity to educators of instituting accurate comparisons between the appliances, methods, and results of the educational systems of different countries and States is emphasized; the value and relation of the higher grades to the whole system of public schools is admirably expressed; the history of the evolution of the public schools of Boston, from the time of the passage of the first act in regard to the Massachusetts schools in 1647 to the present day, is succinctly stated; the essential qualities of the public school system, by which the schools have ever been readily responsive to public needs, are clearly pointed out; the great improvement in the quality and usefulness of the schools of the present, over those of the past, is demonstrated; the variety of criticism to which the school authorities are subjected is amusingly illustrated; some of the erroneous conceptions often embodied in the ideas about a "practical" education are exposed; methods of economizing the time and attention heretofore given to the studies of arithmetic and geography are suggested; programmes of courses of study recommended for various classes of elementary schools by the London school board, for comparison with those used in the Boston elementary schools, are given; so that, both by his interesting portrayal of the historical development of the schools, and by his comprehensive view of the public school system as a whole, Superintendent Philbrick has made a valuable contribution to the present discussion concerning the introduction of industrial art and manual training in the public schools of the country.

This report, by its direct statements, and still more by the logical inferences to be drawn from its statements, can hardly fail to be serviceable to all who are seriously investigating the subjects treated of in these volumes.

REPORT.*

To the School Committee of Boston:

Gentlemen: At the regular meeting of the board, in March, I placed in the hands of the members, for immediate use and reference, proof copies of a statistical summary of the condition of our schools, which might, perhaps, be accepted as the semi-annual report due from me at that time. But my purpose was, instead of trying to, make that statistical communication pass for my report, to keep its type standing until I could get time to add to it a considerable body of explanatory matter, giving my views in detail as to the proper way of handling every part of the course of study in our grammar schools. Amidst the numerous pressing calls upon my time I found myself unable to accomplish this task as I had hoped to do. And now I have concluded, as the best thing on the whole to be done, to reissue the March statistics, prefaced, not by an elaborate guide for the use of the programme, as I had originally intended, but by such practical suggestions and thoughts as the present circumstances of our school system seem to require.

There is no country in the world where there is so much enterprise in educational matters as in America; and yet this enterprise is not as fruitful as it might be. It is an enterprise too generally accompanied by wastefulness. The most obvious proof of this assertion is seen in recent American school architecture. But the lack of economy in erecting school edifices is of trivial importance in comparison with the waste of educational forces in the school room. In other words, the labors of teachers and pupils are not sufficiently utilized, and hence their results are not what they might be.

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* Twenty-second semi-annual report of the superintendent of public schools of the city of Boston, March, 1871.

Everybody will agree that we ought to aim at the best economy, the wisest adaptation of means to ends, in the administration of educational affairs as well as in the management of business concerns. But as to the best mode of proceeding to reach this end, there is doubtless difference of opinion. For myself, I venture to think that the object in view would be greatly promoted by adopting the plan of treating the educational questions that arise in a thorough, business-like, and, as far as possible, scientific manner. Before we act on an important measure, we ought to know what experience has proved in regard to it, what the wisest heads have thought about it, and how the most practical minds have viewed it.

It seems to me that in America, education, both in the school room and out of it, is too much at the mercy of opinions and theories derived from limited personal experience and observation. So far as education is a science, it is an experimental science. The true method of dealing with its problems is to adapt the results of the most successful experiment to the particular circumstances of the case in hand. Hence the supreme necessity of comparisons in respect to the organization, agencies, means, methods, contents, standards, aims and results of education in different countries and States. "This is a subject which can no more be known without being treated comparatively, than anatomy can be known without being treated comparatively."

In accordance with this view, it is very properly made the duty of the superintendent, by your regulations, to keep himself acquainted with the progress of instruction and discipline in other places, in order to suggest appropriate means for the advancement of the public schools in this city.

This duty I have considered one of the most important assigned me, and I have endeavored to perform it with the utmost fidelity, so far as it could be done, without visiting foreign countries.

It has been no less my pleasure than my duty to compare and collate the history, progress and condition of education in different foreign countries, as well as in the different States and cities of our own country, in order to render my services more valuable in promoting the interests of our schools. And this I say, because I wish it to be understood by every member of the Board, that what I say to them in my reports is carefully considered, in the light, not only of personal experience and observation, but also in the light of the results of the experience and observation of others.

ELEMENTARY EDUCATION.

Our system of public schools nominally comprises three grades of instruction, but in reality only two, the elementary grade, including both primary and grammar schools, and the higher or secondary grade, embracing all the different high schools. The line of demarcation between the primary and grammar schools is an arbitrary one, which was adopted merely for sake of convenience in the organization and management of the schools. It is not known to the law, and has no important significance in respect to the age, instruction, or destination of pupils. All the pupils of the primary schools are expected to pass into the grammar schools, and this expectation is practically realized.

But the distinction between the grammar school grade and that of the high schools is real and important. Here is the dividing line between the two grand divisions of education, namely, elementary and higher. The latter has various departments and stages. It comprises secondary and superior education, liberal and technical, or professional.

The curriculum of the grammar school completes the elementary stage of education. Its instruction is instrumental and rudimentary.

The branches taught in the high school constitute not only a higher stage of instruction, but a radically different one. Its instruction is literary and scientific, introducing its pupils into the sphere of liberal culture, or it is technical, leading to professional pursuits. While the door of the high school is, and should always be, open for the free admission of all qualified comers, the great mass of pupils are, by their circumstances in life, prevented from entering. Hence another distinguishing characteristic of the high school: it is practically the school for the few, the minority of pupils.

In view of this fact, the high school is sometimes unjustly stigmatized as the aristocratic school, while the elementary school is claimed as the only true democratic school; whereas the American *free* high school is peculiarly a democratic institution. It gives the poor man's child what he would not otherwise have—a chance with the rich man's.

The elementary school, on the other hand, is not for a minority of children, nor for any class, however large, but for all, up to the prescribed limits of age and attainments. Its course of study comprises those subjects of instruction which are deemed essential for all children, without regard to their social condition or their future occupations. It is the minimum education to which every child is supposed to be entitled as a preparation for usefulness in the community where his lot is cast. It is designed to afford that elementary knowledge and skill which every citizen needs, whatever his calling may be. It is the common school education. It is the base of the educational pyramid.

Remembering to whom these remarks are addressed, I am fully persuaded that it would be a waste of words to enlarge upon the transcendent importance of securing to every child in the community a good elementary education. It would be equally useless to attempt a comparison between the higher and lower grades of instruction in respect to their value as agencies in promoting the welfare of the community. Who would venture to estimate the value of either? Both are of incalculable value and importance. Besides, they are indispensable to each other.

Superior instruction is the source of popular education.

Our common schools were founded by colonists from the universities of the mother country, and their present efficiency depends mainly upon the high schools and colleges. The pre-eminent success of popular education in Germany would have been impossible without the influence and labors of the enlightened classes sent out from the unrivalled universities and secondary schools of that country. To sacrifice higher education to the common school is to kill the hen [sic] that lays the golden egg.

Nor can the college or high school say to the elementary school, I have no need of thee. The people's school is the nursery of the university. Here, from among the mass of common minds, the germs of genius and force are developed and led out from obscurity and poverty into the sunlight of hope. Thus the best material for high culture is made available, the higher seminaries of learning are furnished with meritorious students, the community is enriched and civilization advanced. Daniel Webster said he did not know how he could have gone to college but for the poor little district school of his neighborhood.

No system of education is truly solid and sound and democratic which does not make it possible for the child of superior merit, however poor, to mount to the highest round of the educational ladder.

PROGRESSIVE DEVELOPMENT OF THE PUBLIC SCHOOLS.

An examination into the nature and history of elementary education will make it evident that there is no necessary or permanently fixed limit to what we call a common school or elementary education. It is wholly conventional in its character. This education in Boston to-day is the average result of the present public opinion of this community in respect to this matter. It is very different from what it was two hundred years ago, and this difference is owing to the change which has taken place in the wants and circumstances of the people.

In the first public act of the Massachusetts colony (1647), requiring the establishment of schools, it was provided that the masters of high schools should be "able to instruct youth so far as they may be fitted for the university"; but *reading* and *writing* were the only branches prescribed for the common schools.

Since this early period the standard of elementary education has been from time to time and by slow degrees raised to meet the growing wants of an advancing civilization, until now every city and town in the commonwealth is required by law to maintain "a sufficient number of schools for the instruction of all children who may legally attend school therein in orthography, reading, writing, English grammar, geography, arithmetic, the history of the United States, drawing, and good behavior." In addition to these essential subjects, certain discretionary subjects are enumerated in the statute—"algebra, vocal music, physiology, and hygiene shall be taught by lectures, or otherwise, in all the public schools in which the school committee deem it expedient."

To such a height has the legal standard been raised from simple reading and writing. But it has been decided by the supreme court of the State that the statute only prescribes the minimum of instruction below which the schools shall never be suffered to fall, but that it allows any town to rise as high above this lowest limit as in its discretion, fairly and honestly exercised, it may deem best. I remember to have taught in my youth in country district schools, at different times, algebra, geometry, trigonometry, surveying, political economy, natural philosophy, and Latin.

EVOLUTION OF BOSTON SCHOOLS.

The history of public education in Boston reflects very distinctly the progress of public opinion during the period of two centuries, in respect to the development and ex-

At first, the prescribed branches were reading, writing, and ciphering, the instruction even in these being of the meagerest description. Spelling was as yet not taught as a branch distinct from reading, for there were no spelling-books, and there was no standard of orthography. Our fathers were fortunate that they did not have to master spelling. else they could not have found time to subdue the wilderness.

Soon after the close of the Revolutionary War, the standard of education was advanced. Something in the nature of a programme of studies was adopted, defining, with some distinctness, the extent to which the studies should be taught. The new studies introduced were "spelling, accenting, English grammar, and composition." Writing remained without any qualifications, but reading must include both prose and verse, and arithmetic must be taught in all the various branches of it usually taught in the town schools, "including *vulgar* and *decimal fractions*." But this step was regarded by some as too radical! It was feared that these new language studies would occupy the time which ought to be given to more practically useful branches, and so the committee were requested, by petition, to allow the boys, during the last year of their schooling, to devote *their whole time to writing and arithmetic.*

Many years passed without any material change except the introduction of the outlines of geography, and one or two reading books.

At length, the establishment of primary schools, a little more than fifty years ago, greatly strengthened and improved the grammar schools.

We have a very authentic account of the subjects and methods of instruction in the grammar schools, printed in 1823, which is a land-mark in our elementary education too interesting to be omitted:

"These schools [grammar schools] were separated into two rooms, the upper being occupied for the reading, and the lower for the writing department, the two branches being kept entirely distinct. Each room is provided with a master and assistant [usher], and is calculated to accommodate about three hundred children [probably both rooms together].

From the middle of April till the middle of October, the girls are permitted to attend these schools; half the day being spent in the reading and half in the writing room, the boys changing in like manner to accommodate them.

It being supposed the females would not attend during the inclement season, they are excluded from October to April, when the boys are divided between the two rooms, the highest and lowest classes being separated from the intermediate ones.

As writing and arithmetic only are taught in the writing schools, the masters are selected with special reference to their qualifications in these branches; but the law [regulations] requires that the master of the reading schools shall have been educated at some college or university, and be a citizen of the United States by birth or naturalization.

"The *Reading* Schools are subdivided into four classes, of which the first is the highest. The two upper classes are under the care of the master, and the two lower under his assistant [one class in the forenoon and one in the afternoon, in both cases]; but they are overlooked and frequently examined by the master. These are generally the most numerous, and attend to nothing but reading and spelling.

The second class commit the grammar to memory, and the first apply it to practice [that is, parse]; in some schools the second class are sufficiently advanced to do this. Geography is taught only to the highest class, but as the schools are not furnished with any apparatus, less is effected in this study than might be with more facilities.

The most promising children are from time to time advanced, and finally reach the first class; from which there is annually made a selection of the best boys, who are transferred to the English Classical [High] or the Latin Grammar School, to perfect what they have already begun, and to pursue more advanced studies.

"In the Writing Schools the exercises are few and simple. The master and his assistant usually set the copies and make the pens at home, or at school out of school hours. In a few minutes after the school commences, the classes in arithmetic, which consist of about one-third of the school, begin to write. The scholars bring out their writing-books, and present their exercise for examination and themselves for instruction two or three times before their exercise is completed. If the exercise is not satisfactory when finished, another is required, and so on till one is accepted. After the arithmeticians have done writing, which is generally in about an hour from the opening of the school, their books are closed, and the residue of their time is devoted to arithmetic.

"While the two first classes are thus employed in writing, the teachers are engaged in examining their exercises, mending their pens, or hearing the boys *who do not cipher* repeat the tables and rules in arithmetic; for as soon as the upper classes begin to write, the lower classes are taken out to commit to memory such tables and rules in arithmetic as are proper to prepare them for that study. These take their turn at writing when the upper classes have done. Thus all have employment for the whole of school hours.

"Some use of the system of mutual instruction is also made in the writing schools.

On the first Tuesday of each month it is customary for the scholars to take places according to merit. The first scholar has the privilege of choosing a seat for the month, and, likewise, of selecting two or more *young* scholars to sit near, whose studies he overlooks, and for whose improvement and good conduct in school he is responsible. The next scholar does the same, and so on, as far as they are qualified to teach others. When we consider how many children are under the care of each master, we are naturally led to fear that but little attention can be shown to each individually, and consequently little progress made; but the great number of distinguished citizens who have received no other education than our public schools afforded is the best proof of their utility."

This account of the subjects and methods of instruction as they existed in our grammar schools fifty years ago is taken from "The Prize Book of the Publick Latin School in Boston" for 1823. It was probably written by one of the grammar-school masters. At any rate, there can be no question as to its authenticity. It is a precious scrap of our educational history. It gives us a clear idea of the standard of elementary education at that time. I find no difficulty in admitting the immense utility of such an education, because such an education is so much better than none at all.

The advocates of a very limited course of study for common schools will doubtless be ready to affirm that what the schools of that day wanted in variety of subjects of instruction was made up by the thoroughness of the knowledge acquired in those branches pursued. Nothing could be further from the truth. The account of the methods and procedure above quoted affords sufficient evidence of the utter impossibility of such a result. A very few of the brightest pupils left the schools with a good degree of skill in penmanship, a fair knowledge of arithmetic, reading, and spelling, and a little smattering of the technicalities of grammar; but the great mass of the pupils ended their schooling without having made any considerable progress in any one of these branches. There was then no such thing known as any exercise in writing, except in the copy-books. There was no practical spelling whatever, no mental arithmetic except the multiplication table, little or no instruction in the theory or principles of arithmetic. Writing was taught as a purely mechanical art. There was no vocal music, no drawing, no object teaching, no instruction in geography worthy of the name; no vocal training, no physical exercises, no writing of compositions, and no instruction whatever in the elements of science. But the cowhide and ferule were not wanting; and they were indispensable requisites in such a system of schools.

I hear it said that the extent of the use of the ferule is always in an inverse ratio to the degree of skill and capacity of the teacher. But this is only a half-truth. All the circumstances in which the teacher is placed must be taken into the account. With the classification, accommodations, and the studies of the period in question, the ferule has to be brought into use, not only to preserve order, but to secure the performance of the tasks on the partof the pupils. It is the system of education which determines to a very great extent the necessity of the rod. The free use of the cowhide in the schools of the old type should be taken, not as evidence of the inhumanity of the masters, but as proof of the imperfection of the system which the masters had to carry on.

In this connection I must mention a curious and interesting fact for the consideration of a certain class of fault-finders who have undertaken as their peculiar mission to complain of the extravagance of the school committee, and who represent them as incompetent to appreciate the value of money. It is this: the cost of maintaining the public schools fifty years ago was upwards of *one-quarter* of all the expenditures of the city, whereas now it is only *one-eighth.*

In other words, the expenses of the other branches of the city service have in the aggregate increased twice as fast as the expenses for schools. This great relative economy in school affairs is the result of the adoption by the school board, from time to time, of wise and comprehensive measures of improvement in the organization and arrangements of the different departments of the system.

The superiority of the present condition of our schools over that of fifty years ago has been brought about by the introduction of improved methods and appliances of instruction. We have made great progress; there is no doubt of that. Probably our relative standing is better than it ever was at any former period. But while we may regard with some degree of satisfaction what has already been achieved, no one, I trust, will admit that our efforts for advancement should be in any degree relaxed.

CONFLICTING CRITICISM.

I find around me conflicting opinions, not only as to what should be the aim in education, but also on the details of means and methods. I am often button-holed and lectured by persons holding opposite and extreme, and what seem to me one-sided, views on educational matters. In this way I am sometimes entertained and instructed, and sometimes not. I am, on the whole, rather fond of hearing what the enthusiast and the man of one idea has to say. Such men are not to be followed or imitated, but they are very valuable for their suggestions and for their stimulating effect.

Here is a man, on the one hand, who thinks we are ruining the rising generation by an excess of book learning; that we are overeducating the children of the poor; that we are thus creating in them tastes and wants which will make them discontented and unhappy.

My answer to this man is, that if these poor children were clothed and boarded, as well as taught, at the public expense, there might be some danger in that direction; but, for one, I have no fear that poor people will voluntarily incur the expense of maintaining their children at school to an injurious extent. It is possible that there may be some individual cases of this sort, but we cannot adapt our system to suit all exceptional cases. We must aim to do the greatest good to the greatest number. Within the range of my observation, the poor are everywhere suffering, not from an excess of knowledge, but from an excess of ignorance.

I believe knowledge is power for the poor as well as for the rich. The idea of giving the children of the poor a poor education, that is, a little mechanical reading, writing, and ciphering, seasoned with a little of Bible history, has been for many years in vogue in England. But the wisest friends of education in that eminently practical country have come to the conclusion that this theory is not sound. Its results have not been satisfactory. The American idea is to give free *tuition* to all classes, as far as they desire to receive it; or, rather, this is what all classes are pretty well agreed on providing at the public expense.

WHAT IS PRACTICAL EDUCATION?

Another intelligent and philanthropic person who desires to aid in improving our education comes and recommends very earnestly the introduction into our schools of some branches which are more practical than those now taught. Well, I say, I am strongly in favor of practical education; that is just what I am trying to make our education. Will you be so kind as to tell me what you mean by practical education? for I find a great diversity of opinions about the signification of the word "practical" when joined to the word "education." He then proceeds to explain, by saying that a practical education, in his view, is an education calculated to fit a boy or girl to get an honest living on leaving school; that it includes instruction in useful arts and trades; that there should be rooms in the school-house furnished with tools and superintended by skilled foremen, where the pupils should devote a part of their time to mechanical employments. Being requested to be still more specific, and to name some trade or trades which he would have the boys taught, he designates shoemaking and cabinet-making. He is not able to point to any successful experiment of the sort, but thinks Americans should make precedents, instead of following them. To this suggestion, of course, every American who believes in the Fourth of July gives his unqualified assent. Still it sometimes does no harm, to say the least, when a very important practical question is under consideration, to take a glance at what has been elsewhere said and done about it.

CONCLUSIONS OF FRENCH EDUCATIONAL WRITERS.

So, at the risk of seeming very unpatriotic, I venture to take down a volume and read the following paragraph from a work upon education by Philippon de la Magdelaine, published in France about ninety years ago, the question under consideration being precisely the same as that we are now discussing, namely, "*Ought* trades to be taught *in the schools* to the children of the people"?

"It is necessary either to choose one trade or to choose several. Now, to teach the same trade to all would be to thwart the inclination of many children, and the inclination ought to be consulted in the choice of occupations, because one does with success only what one does with pleasure. It would be to frustrate the plans of parents whose condition in life and whose preferences ought certainly to be taken into consideration. It would also thwart our plan of education, the aim of which is to render the children of the people fit for all the occupations which fall to the lot of this class of citizens.

"On the other hand, how is it possible to teach different trades without multiplying infinitely the expense of the schools, owing to the necessity of multiplying the number of the masters? And, besides, to what trade can you train a child from five or six to eleven or twelve years of age? Is it not better, by promoting the development of his limbs and giving him activity and strength, to render him capable of pursuing any calling? Not that he should know any one trade, but that he should be fit for all; this is the essential thing. Then, at the termination of his schooling, he will easily form himself for whatever his taste or circumstances give him an inclination."

These reasons, which seem to me very sound. notwithstanding their age and foreign origin, made little impression, I observed, upon my visitor. And so I asked, "You have read the able report on this subject by M. Ph. Pompée?" "Never," he replied. "Well," I continued, "it will not take long to do so; it is quite brief. It is not American, it is true, but is recent enough, and it is a clear *résumé* of the subject. It mentions the failures of the attempts to put 'the shop into the school,' and shows how it is practicable to place 'the shop by the side of the school,' by the adoption of the English half-time system. The plan is simply this: Open special schools where boys of a certain age are permitted to attend one part of the day, the other part being given to work as apprentices in shops established for the purpose, or in the regular mechanical establishments of the neighborhood. Two sets of boys could attend the same school. The instruction might bear as far as practicable upon the occupations of the pupils." Of course, it was a pleasure to me to lend my visitor Mr. Pompée's report.

ON INDUSTRIAL EDUCATION FOR GIRLS.

This excellent gentleman had but just retired, when I was honored with a call from a lady of the highest respectability, who begs to know how the industrial education of girls is getting on in the Boston public schools. She is thoroughly convinced that something ought to be done to remedy the present lamentable deficiencies in the practical education of girls. I try to express my pleasure at finding that there are good people who care enough about the right education of poor children to climb so many stairs to my office, and assure her that I am all ears to any one who will take the trouble to tell me anything about education. Not that I find it so very difficult to discover faults and defects myself, as that is an easy task, and demands but little talent, or experience, or study, but the thing wanted is wisdom to plan and carry into effect real, true remedies. This matter of industrial instruction in our schools is in the hands of an able special committee of the board, who will doubtless give the subject a thorough examination. In the mean time, sewing is being taught in the lower classes of the grammar schools better than formerly, and, for one, I am in favor of extending needle-work, now taught in the lowest classes of the grammar school for girls, through all grades of our schools for girls, and of making it a condition of graduation that a girl should be thoroughly trained in cutting out as well as in sewing. This statement, I was happy to find, really pleased my caller, who innocently imagined that what was believed to be good by the superintendent would certainly at once be put in practice. But I hastened to enlighten her on this point, by relating to her some experiences in connection with measures for improvement, which from to time have been proposed, and at length carried out. The excellent lady, apparently thankful for even so little encouragement from an official whom she had probably imagined to be an incorrigible conservative, expressed the hope that this *reform* would be speedily adopted, and then gracefully retired. I noticed particularly her emphasis on the word "reform," and pondered on it for a while. On reflection, it occurred to me that I had not been in the habit of using this word very freely. This may be the reason that some imagine me to be opposed to progress.

After this interesting interview, hardly a day passed before I chanced to meet two extremely intelligent and earnest ladies who are much devoted to the movement for the amelioration of the condition of women. The topic of school improvement is broached, and my plan for the industrial training of girls in all the mysteries of needle-work is set forth with the confident expectation of a cordial approval; but no, they were most emphatic in their denunciation of the scheme, and entreated me not to urge its adoption. They wanted women emancipated from the servitude of the needle. Men did not make their own clothes, and why should women? Girls needed all the school time they could get for their intellectual education; and, besides, if their minds were well disciplined and trained by a thorough education, they could very easily pick up the skill they needed in sewing and cutting out. Both adduced their personal experience in support of their theory. But while they were opposed to my proposition, they were by no means of that class who content themselves with opposing the plans of others without offering any suggestions of their own. Their remedy for the evils and defects of the schools consisted in placing women on the school committee and raising the salaries of female teachers. Not having time to discuss this platform, as I had an engagement to fulfil, I was obliged to end the interview.

I went on my way in rather a nonplussed condition of mind. I had been innocently indulging the hope that if women were put into school committees they would not only favor the intruction of girls in plain sewing, but that they might even advocate the teaching in the upper schools of ornamental needle-work as a branch of art-education. But I am now told by ladies representing the advance guard of the reformers of female education that the needle is the symbol and badge of the slavery and degradation of women, and that, as such, it must not be allowed a place in school education.

CONFLICTING OPINIONS.

Being an honest seeker of truth, or at least imagining myself to be such, and appreciating very highly the privilege of listening to the instruction of learned and wise men, I make a point of attending a meeting where a truly great man is to speak to teachers on education. I am charmed and edified with what he says of the importance and the ways and means of teaching in our elementary schools the rudiments of natural science. *Every primary school, he says, must have its little museum of natural history.* That sentence I felt sure would live and be quoted the world over, for he who uttered it was the very best authority in such a matter. He then goes on to depreciate the value of the study of words, and finally declares that the study of English grammar should be abolished as a uselesss waste of time. Here the query naturally arose, whether a man who was an acknowledged authority in one department of learning is equally entitled to respect as an authority in those branches which are outside his specialty?

But, curiously enough, the renowned scientist was immediately followed by a master of philological learning in an elaborate, charming, and instructive address, illustrating the transcendent importance of the study of words as a branch of education, and advocating a thorough course of grammatical training. As he ended his discourse of reason, grace, learning, wisdom, all compact, he left the conviction on my mind that a man who could use words so well and so wisely must be good authority on the study of words.

At a meeting held in this city a few days ago, of an association for the improvement of female education, composed of highly cultivated ladies, one of the speakers, a gentleman of high distinction, in his enumeration of the studies most desirable for young ladies, omitted altogether both the Latin language and botany. He was followed by the distinguished president of a young but famous university, who vigorously maintained that Latin and botany were precisely the branches of all others which it was important that young ladies should study.

It would be easy to multiply illustrations of contradictory opinions and theories in respect to the subjects and methods of education. Now, the practical inference, as it seems to me, to be drawn from the fact that intelligent persons differ so widely on these matters, is not that there is no solid educational ground to stand upon; but that amidst the conflicting views of the advocates of different plans and measures, it is important to exercise a wise discrimination in determining what course to pursue. A man may be a profound scientist or learned scholar without being a wise adviser in regard to the practical details of instruction.

Isolated individual experience does not go for much in settling an educational question. What we want is the results of *learned experience*—the experience of experts who have largely studied the history and philosophy of education. When one comes to offer a new educational plan, it is proper to inquire into his credentials. If he claims to be a practical man it is important to ascertain in what matters he is practical, for a man may be very practical in house-building and not at all practical in mind-building. In other words a man is practical in what he understands, and he is not practical in what he does not understand.

The members of the board will readily perceive that in what has just now been said I have had in view a class of outside critics, who suggest numerous improvements for our schools without taking the trouble to inquire into their actual condition, or their history, and without any very reliable knowledge of educational experience elsewhere. One of these well-meaning persons, who probably never saw the inside of one of our school-houses, lately expressed deep regret at the recent multiplication of the requirements in our grammar school. A few minutes' conversation revealed the profoundest ignorance, on the part of this critic, not only of the actual requirements, but of the requirements of past years as well.

STUDIES IN BOSTON SCHOOLS IN 1844.

Having already presented the meagre programme of fifty years ago, I will here quote the course of study for the first class of the grammar schools as it stood in 1844, so that any one may see just what change has taken place in the period of twenty-eight years, in respect to the text-books used, and the subjects of study for the *first* or *highest class* of grammar schools.

"Emerson's National Spelling Book; Goold Brown's First Lines of English Grammar; Olmsted's Rudiments of Natural Philosophy and Astronomy, or Parker's Compendium of Natural and Experimental Philosophy; Woodbridge's Geography and Atlas; Pierpont's American First Class Book; Worcester's Elements of General History; exercises in composition and declamation; writing; penmaking; North American Arithmetic, Part Third; Robinson's Bookkeeping.

"Members of the first class who shall have nearly completed the course of exercises in arithmetic may be instructed in algebra and geometry. The following studies and books may be introduced at the discretion of the master:

"Smellie's Philosophy of Natural History; Goold Brown's Institutes of English Grammar; Whately's Rhetoric; and Parker's Exercises in English Composition."

If we consider that in the above schedule of studies, the text-books are named without any indication as to the extent to which they are to be learned, the inference from the absence of limitations being that the entire text-books were to be studied, it is evident that in our new course of study, which is now in force, decided progress has been made during the past twenty-five years, in adapting the work of the schools to the capacities and wants of the pupils.

In preparing the programme, at the request of the Committee on Text-books, no authority was given me to make any change either in the text-books in use, or in the required subjects of instruction. Indeed, there was little need of change in any one of these respects, so well and wisely had the Committee on Text-books done their duty, in the previous years. The problem was to determine in what way the text-books were to be used, what portions of them were to be omitted, and what portions to be taught; to arrange the order of the studies, and fix some reasonable limitations in each, beyond which pupils should not be expected to go, and to define, for the sake of classification, the several steps or grades of the course.

We were tardy in undertaking this work. For want of it we were relatively losing ground in respect to the handling of the studies in the grammar school department of our system of elementary education, while in the primary department we occupied an advanced position. But by delay we had, on entering upon this new step, the advantage of the results of the labors of many able hands that had been engaged upon the framing of study-plans for elementary schools. With this advantage in our favor we ought to have been able to lay out a better course than had been previously devised elsewhere.

Ever since the programme was adopted its workings have been the special object of my attention, while, at the same time, constantly getting all possible information about the ideas and plans of the wisest and most practical men all over the world who are dealing with the same problem, that is, the right ordering of *elementary education*. And the result is that I am unable, as yet, to point out any feature which would be materially improved by a change. Still, in my mind, it is not to be regarded as a finality. Experience will doubtless suggest improvements. But what is wanted is an honest and sufficient trial, for three or four years more at least, before its legitimate fruits will be fully developed.

ACTION OF LONDON SCHOOL BOARD.

I have already alluded to the importance of comparisons in educational matters, and I shall take this occasion to make a practical application of that principle by quoting from the recent doings of the school board for London.

This body, consisting of forty-nine members, was elected on the 29th of November, 1870, in pursuance of a special provision of the elementary education act, which received the assent of the Queen on the 9th of August of the same year, and which is intended to secure to the people of England and Wales the advantages of a complete system of elementary schools. The great interest attaching to the doings of the London board results not from the experience of its members in developing or administering a great municipal system of common schools, but from their exceptional character in respect to ability and learning, and from the fact that, unhampered by tradition or routine, they have availed themselves of the light derived from the experience and wisdom of foreign countries to an extent unknown in any similar undertaking.

A special committee of fifteen members, Professor Huxley being the chairman, was appointed to submit a scheme of education. This committee has made its first report, which is evidently the result of the most careful and thorough study of the subject. This report classifies the schools into *infant schools* for children below seven years of age; *junior schools*, for children between seven and ten years of age; and *senior schools*, for older children. It is not expected, however, that children will be taught in these schools who are over the age of thirteen years.

It is recommended that the infant schools be mixed [boys and girls being taught in the same classes]; that the senior schools be separate or unmixed; while in regard to the junior schools no general rule in this respect is laid down.

It is concluded that the period during which the children are under actual instruction in school should be five hours daily for five days in the week.

Vocal music and drill are to be taught in every school during the period devoted to actual instruction.

The recommendation in regard to corporal punishment is substantially the same in spirit as our regulation relating to the matter.

The subjects of instruction recommended for the several grades are as follows:

"INFANT SCHOOLS.

"*a*. Morality and religion.
"*b*. Reading, writing, and arithmetic.

"*c.* Object lessons of a simple character, with somesuch exercise of the hands and eyes as is given in the Kindergarten system.

"In addition, the general recommendations respecting music and drill apply to infant schools, in which singing and physical exercises, adapted to the tender years of the children, are of paramount importance.

"JUNIOR AND SENIOR SCHOOLS.

"We recommend that certain kinds of instruction shall form an essential part of the teaching of every elementary school, while others may or may not be added to them, at the discretion of the managers of the individual school or by the special direction of the board.

"*A. Essential subjects.*

"*a.* Morality and religion.

"*b.* Reading, writing, and arithmetic; English grammar in senior schools, with mensuration in senior boys' schools.

"*c.* Systematized object lessons, embracing in the six school years a course of elementary instruction in physical science, and serving as an introduction to the science examinations which are conducted by the science and art department.

"*d.* The history of Britain.

"*e.* Elementary geography.

"*f.* Elementary social economy.

"*g.* Elementary drawing, leading up to the examinations in mechanical drawing, and to the art teaching of the science and art department.

"*h.* In girls' schools, plain needlework and cutting out.

"*B. Discretionary subjects,* which may be taught to advanced scholars.

"*a.* Algebra and geometry.

"*b.* Latin, or a modern language."

The noticeable features of this schedule are the prominence which it gives to *elementary instruction in physical science,* placing it before history and geography in the order of precedence, and the admission of *Latin or a modern language* as optional branches, since the course is intended only for pupils ranging from seven to thirteen years of age. There was a difference of opinion in the board about some of the discretionary studies, and I have not learned the final result of the discussion of the subject.

PRACTICAL SUGGESTIONS AS TO METHODS OF TEACHING.

This report affords the strongest possible indorsement of our own course of elementary instruction. To a pupil or teacher of the "old school," who has not kept up with the times, it will appear to be altogether extravagant in respect to the number of subjects of study required. But this is not the case. In the first place, two studies do not require twice the labor of one; and then some branches, such as singing and drawing, hinder progress in other branches very little, if, indeed, they are not a positive help.

The modern facilities and appliances for elementary teaching, such as classification and apparatus of various kinds, have vastly increased the teacher's power of imparting and the pupil's power of acquiring. I will mention only one—*the blackboard,* which is to teaching what steam is to transportation. I would say, in the words of a good authority, "*Let us try what conscientious and intelligent teaching can do, before we presume to decide what cannot be done.*" And in what does conscientious and intelligent teaching consist? It consists in two things: First, in the exercise of good judgment in determining what to teach and what not to teach, at each step, in the several branches; and, second, in the use of economical methods.

Who have been our guides as to *what to teach in each branch? Compilers of text-books!* Mr. Historicus compiles a history of the United States for general use, for the market of the whole country. He is compelled to embrace in it the details of the colonization, and so forth, of every State. And what have we done, in times past, but make our children learn these useless details? And so of geography. Our children have been crushed down under an intolerable load of geographical rubbish, simply because it has been printed and put up between the two covers of a book! And so of arithmetic, and grammer, and spelling. It is not the books that I so much blame; it is the wrong use made of them that I complain of.

But there is no less room for economy in the method, than in the choice and limitation of the matter, of instruction. I have seen, in one school, children kept for weeks poring over a few pages of elementary geography, to no purpose, for want of conscientious and intelligent teaching; while in the next school, by a judicious use of the globe, the wall map, the blackboard, and the text-book, the children were soon made quite *intelligent* on the subject of geography; and, what was more, were greatly interested in the study. Illustrations of this sort, without number, might be produced.

Now, it is the object and design of our grammar school programme to make it practicable for our teachers to omit the useless parts of their text-books, and to teach all the branches in a reasonable and intelligent way. It is based on the assumption that if all the branches therein required to be taught are properly apportioned and properly handled, the results will be reasonably satisfactory.

It assumes that it is better to know something of the history of England than to know everything of the history of New Jersey or Connecticut; that it is better to know something of the elements of physical science than to know how to locate every village and mill stream in the United States. It assumes that it is better to be able to write a decent letter than to be able to get a hundred per cent. in spelling a list of very hard words. And if in any school the classes are not up to the requirements in any branch, the inquiry should be, first, Is not too much attempted? second, Is the proper time given to it? and, third, Is it taught in the best manner? Before the programme was adopted, unsuccessful teachers were in the habit of attributing their failures to the text-books; now they are very likely to make the programme the scapegoat of their shortcomings. Still, in justice, I ought to say that but few such cases have come to my knowledge.

But, as soon as we begun to have the courage to contend that our text-books should not be taken as the standard of what should be taught in each branch, certain objectors come up to confound us by demanding if we were going to give up the idea of *thorough* teaching. They tell us that we must not take up a study unless we go *through* it, complete it, master it; that any other course makes shallow, superficial scholars, mere smatterers.

Applying their doctrine to arithmetic, they would have a child drilled on addition until he is able to rival an accountant in adding columns, before he is permitted to know that there is such a process as subtraction; they would have him solve all possible problems involving vulgar fractions, before he is allowed to cipher in decimals. Such an idea of thoroughness, for one, I utterly repudiate.

A child should very early be taught to perform the operations not only in the ground rules, but in fractions, both vulgar and decimal, using simple examples and small numbers. As his mind opens and expands, and his reasoning powers are developed, he will in due time easily master the more difficult and complicated applications of these processes.

There are two prevalent notions of thoroughness in elementary teaching, both of which seem to me to be erroneous. First, that each *topic* of any given branch must be studied exhaustively before another topic is taken up: as, for example, that the geography of North America must be completely mastered before the pupil is taught anything of the geography of South America. Second, that certain *studies*, as arithmetic, grammar, and geography, must be learned exhaustively before the pupil is taught anything of history, or the elements of natural science. The true method of proceeding is to aim first at a general knowledge of a branch before going into the details. But a general knowledge is not necessarily a superficial knowledge. Stuart Mill has well said, "To have a general knowledge of a subject is to know only its leading truths, but to know these not superficially but thoroughly, so as to have a true conception of the subject in its great features; leaving the minor details to those who require them for the purposes of their special pursuit. There is no incompatibility between knowing a wide range of subjects up to this point, and some one subject with the completeness required by those who make it their principal occupation. It is this combination which gives an enlightened public a body of cultivated intellects, each taught, by its attainments in its own province, what real knowledge is, and knowing enough of other subjects to be able to discern who are those that know them better."

This was said of higher education, but it has its application to elementary education as well. Because some few of the pupils in our schools may become accountants or engineers, and will need in their professions great skill in figures, must the mass of pupils, who will never have any use for an extraordinary amount of arithmetical science, be required to occupy so much of their time on this branch, as to leave no time for acquiring a knowledge of the elements of physical science which would be of use to every one, whatever may be his calling in life?

Our elementary education is well organized. Each master is directly responsible for the teaching in all classes in his district. It is his duty to direct the work of his teachers so that all their labors may be turned to the best account. He is expected to give illustrative examples of the best methods of teaching in all the classes where such examples are needed. He does not imagine his duty to be done when he has given his teachers their classes and directed them to carry out the programme; he feels it incumbent on him to show how the work should be done in its details. The title of master now means something more than the designation of the head teacher or the police authority in the school; the master is now bound to be a master of methods—a real training master. This at least is the ideal of the master's position and duty, and the progress towards its realization is in a high degree satisfactory. In some districts the degree of excellence already reached exceeds my highest expectations.

Respectfully submitted.

JOHN D. PHILBRICK,
Superintendent of Public Schools.

VI.—SOME ENGLISH EXAMPLES.

A brief history of the efforts made by Benjamin Robert Haydon to promote education in art, in Great Britain, from 1804 to 1846; with the criticisms made in 1874 by Mr. Sparkes, then head master of the Government Art School in Lambeth, on the erroneous art training given at that time by the South Kensington school.

INTRODUCTION.

The previous articles of this appendix are connected only with early educational efforts in the United States.

With the purpose of showing that the difficulties met with by these early advocates of the general art training of the people, in public schools and other educational institutions, as recorded in Chapter I of this present Report, were neither confined to the United States, nor due to the exceptional ignorance or obtuseness of Americans; and, also, that the highest English contemporary authority on questions of art education was then in full accord with the opinions advocated by those early American writers, and, further, that the best English authorities of to-day hold to the same opinions; the present paper, giving some account of the life and educational efforts of one of the most distinguished of the English painters in the early part of the present century; with a further statement of the essential conditions of industrial art education made by one of the most successful of the modern English industrial art teachers, is added.

The several papers in this appendix well illustrate the slow and painful processes of evolution even in the world of thought. Haydon more than once quotes a remark made to him by Southey, as if fearing that it was indisputable: "It takes one generation to get a principle admitted, and another generation to get it adopted"—a statement which the sad story of Haydon's life, as contrasted with the present brilliant achievements of England on the line of Haydon's endeavors, would seem to endorse.

Standing by itself, the instance of the sudden art educational movement in England, which appeared to spring up spontaneously after the first world's fair, has always seemed phenomenal; but, viewed in the light of the true history of the long and arduous struggles that preceded, is seen to be but the occurrence of a natural and orderly development when, at length, circumstances were favorable.

In a monarchy, public affairs move rapidly and smoothly when the ruling power takes the initiative; therefore the word of any prince in England may well seem to have been more potent than were the long years of persistent effort which preceded their utterance, though undertaken by even so great a genius as was Benjamin Robert Haydon. For this reason, doubtless, it has happened that, so far as shown by any references in recent publications concerning the movement in England for extending educational training in the industrial or fine arts throughout Great Britain, this wonderful movement would seem to have burst upon the world with as little premonition as existed in the case of the fabled birth of Minerva, and to have had its origin solely in the advantage taken, by the far-seeing Prince Consort, of the mortification by which the English were overwhelmed when the proofs of their inferiority to the continental nations in all artistic manufactures, were made manifest by the opportunities afforded for comparison during the Great Exhibition at Hyde Park in 1851.

To Prince Albert, Sir Henry Cole, and the English statesmen and educators who so ably seconded their plans, great and merited praise has been awarded for their admirable and successful efforts to effect, in the shortest possible time, the educational and industrial changes requisite.

It is true that occasional allusions were made to certain previously established Government schools of design, by the early writers and speakers on this movement; but only to record the fact that they had proved wholly inadequate to the purposes for which they were established. This fact, however, remained, that anterior to the coming of Prince Albert the English Government had been led to initiate educational movements with the direct purpose of improving the artistic quality of the manufactures of the country.

What had led to this movement and why had it failed?

These are interesting questions, and are of importance when considering the propriety of similar efforts; because there is often as much to be learned from failures as from success.

In the many works recounting the story of the Great Exhibition and the origin and development of the South Kensington Museum and schools, and in the countless addresses since made in connection with the English art schools and museums that have come under the observation of the present writer, there is nowhere recalled a hint of the long struggle that preceded the founding of those early schools of design; nor of the fact that as soon as they were undertaken their failure was predicted, because the sole conditions of success were wilfully ignored by those having them in charge.

As much prejudice against, and opposition to, the introduction of industrial drawing in the schools of the United States, was shown by people of culture, who had received their impressions from the early protests uttered by John Ruskin, and others, against the South Kensington methods and results; it became a matter of very serious importance, to those endeavoring to promote the introduction of this new study, to know the reasons on which Mr. Ruskin and his friends based their objections.

Those reasons were found to be sound; the training against which the protest was made was defective and would inevitably, if persevered in, have led the new Government schools to the same fate as that which had befallen the old. Wherein lay the difficulty will be seen by a perusal of the accompanying extracts from the paper read by Mr. Sparkes in 1874.

That these criticisms proved effectual, and that Mr. Sparkes—the head master of the Government Art School in Lambeth, a district of London—who was the champion of the only method of a sound education in art, was eventually placed in charge of the schools of South Kensington, is a matter of congratulation.

It is certainly important that all advocates of the South Kensington methods of popular art instruction—which are practically those of the Walter Smith system, as known in the United States—should be informed as to the reason that once existed to justify Mr. Ruskin's criticism; because that reason no longer exists, and, therefore, all similar criticism at the present time falls to the ground.

In Chapter I of this Report there is given a brief summary of several sporadic efforts made long before the coming of Walter Smith, at different times and in various places in the United States, with a view of demonstrating that there is a consensus of intelligent minds as to the right methods of disseminating instruction in art among a people; and, also, to show that those who are competent to speak upon the subject agree in recognizing a direct connection between a general knowledge by the people of art, and of the methods of its applications to industry, and the manufactures and prosperity of the nation.

For many reasons it has been thought well, in this appendix, to supplement these American authorities by an account of the like efforts of one of the most distinguished among the English artists of the early part of the present century, to whom, more than to any other private individual, is to be credited the initiation of the movement which has resulted in the present development of art education and of artistic manufactures in Great Britain; and, also, to quote the indictment drawn up by Mr. Sparkes against the instruction promulgated by the authorities of South Kensington, during the early years of that institution.

It is, of course, quite possible that, though they have not fallen under the observation of the present writer, abundant testimony may have been given, by English art educational authorities, to the powerful and long continued appeals for the general dissemination of art education among the people of England, made during his whole art life, by Benjamin Robert Haydon.

It would not, on the other hand, be very strange if this silence was intentional; for, to a mind sensitive to the honor of England, the story of that life is one of the saddest in her annals. He gave himself to art with an absorbing devotion, employing all his powers on whatever efforts seemed to promise anything of good to the advancement of art in England or to the honor of the country.

In view of this absolute devotion of a life to such a purpose, there can be little satisfaction in remembering that this man, whose art powers were recognized by Europe, was denied employment by the state, and so poorly employed by the wealthy nobility of England that, in this boasted nineteenth century, again and again, through the working of the barbarous law of England, he was thrust into prison for debt—debts incurred not by reason of wasteful extravagance or owing to self-indulgent idleness, but due simply to the providing the necessities of life and the cost of models, etc., during the time necessarily given to the production of a great painting; and, further, that when his unaided efforts had compelled the public, the authorities, and the nobility to take such action as he had urged; the petty spite of some, and the contemptible subservience of others to those high in authority, effected that this man, who had thus proved himself a public benefactor, should always be ignored, although his plans were accepted.

It may be well to reflect on the outcome of this injustice, since it invariably happened that, by a just Nemesis, the public was defrauded of the legitimate benefit of those plans; because, despite Haydon's published protests, they were not honestly or effectually carried out!

However strange the indifference of the American public, years ago, to the efforts of Mr. Peale, Mr. Minifie, and others, in their endeavors to introduce an element of art training in the public schools, may now seem to the readers of to-day; the obstacles they met with were slight, as contrasted with the dense stupidity, prejudice, and selfishness that in England opposed Haydon at every step.

At last, worn out by endless struggles, convinced that there was no success possible for one who, in his sincere zeal for the true interest of art and of England, had aroused so many antagonisms, had exposed so much of hypocrisy and ignorance, this brave enthusiast was overborne, and ended the struggle by his own hand.

In reading the romantic story of his life, the wonder is, not that this happened but that his indomitable will held out so long.

This self-immolation of Haydon was more pitiful, even, than the much lamented death of Chatterton; for this man, who thus miserably perished in the full possession of his powers, had proved his value. He had painted works that the whole world united in calling great. Again and again he had won new victories for England, and had made direct contributions to her advancement. He had trained a whole school of distinguished artists. He had been honored with the friendship of Scott, Wordsworth, and Keats. He was on terms of association with the statesmen who ruled the England of his day. He was one of the most powerful controversial writers of his time. He had painted some of the most famous works of the era.* By his published writings and his spoken addresses he had, again and again, moulded public opinion and forced the advance of civilization. And yet, though they knew he had done all this; though at times all England would throng to the exhibitions of his paintings; England had then no better use for such a remarkable man than to let him suffer the ignominy of a prison, and force him by neglect, to the dread alternative of suicide.

Of course society was horrified at the shocking catastrophe, and a concourse of distinguished people paid him the last rites of sepulture.

He had asked for bread and they gave him a headstone!

Had the nobility and the rulers of England, been as wise in their day, as were the Greeks under Pericles, or the Italians of the times of Lorenzo the Magnificent, or Pope Julius II, they would have seen to it that their palaces and public buildings were made glorious with the art of this man; who only asked of them employment, but asked in vain!

The contrast thus shown between the countries and the eras, is certainly not to the credit of the much lauded civilization of our modern days.

This incapacity to recognize and to utilize that rare being, a great creative artist, resulted, as Haydon realized, from the utter ignorance of the ruling classes of England in all matters relating to art, of which they knew nothing except the art of portraiture. This ignorance arose, in Haydon's judgment, largely from the fact that in the universities, where they were educated, and where the private tutors and instructors of the children of the higher classes were also educated, no attention was given to the fine arts; not even to their history and literature, a knowledge of which would seem to be an essential part of any education having the slightest claim to being called "liberal." With this conviction, Haydon constantly urged that art professorships should be established in the universities. The depth of this general ignorance of art, both on the part of the ministry and by the members of the two Houses of Parliament, is shown by the fact that, incredible as it now seems, England was on the point of rejecting the sculptures of Phidias, rescued by Lord Elgin from the ruins of the Parthenon, and it is largely due to Haydon that, after years of delay, they were finally secured; but the transaction was accomplished in a way, that not only shows that this action was not based on any sure knowledge or appreciation of the real value of these marvellous treasures, but which, from its penuriousness, seems contemptible.

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*One of his most famous works, "The Entry into Jerusalem," is now in the cathedral at Cincinnati, Ohio. For reference to this, see letter from Mr. John Sartain, in note to the account of the Pennsylvania Academy of the Fine Arts, Part IV of this Report.

Lord Elgin, who for his country's sake had refused to sell these priceless relics to Napoleon, or to the King of Bavaria, which latter monarch had deposited a large amount with a banker in London to secure them in case England declined, was paid a sum less by £16,000 than the expenses he had incurred in securing and in bringing them to London—something of a tax for his patriotism.

An account of this curious episode in the art history of England and of Haydon's part in it, will be found in the appendix to Part IV of this Report.

In the record of the disastrous effect on Haydon's fortunes, resulting from the antagonisms aroused by his single-hearted devotion to what he believed to be the true interests of art, there are thrown some curious and interesting side lights upon the English society of that time.

He first exposed himself to class hostility by the fact that, in some of his outspoken efforts in behalf of art and of the honor of England, more especially in his efforts to save the Elgin marbles, his intelligence, opposed to the dense ignorance of the higher classes in all matters relating to art, so exposed the incompetence of some aristocratic connoisseurs, who had been looked up to by society as art authorities, that neither the shallow pretenders, nor their dupes, ever forgave him.

In the hostile attitude of the Royal Academy to any thorough instruction in art of their artisan pupils, as well as in their opposition to the dissemination of any general training in art among the people; in the incredible difficulties that were opposed by successive ministers to the promotion of any consideration of art matters by the Parliament; and in the surprising inability of all classes to see that there was any connection between an intelligent cultivation and patronage of the arts of design, and the manufacturing and commercial prosperity of England; there may be seen some of the obstacles that, early in the nineteenth century, opposed themselves to any full and free development of the natural abilities of the common people of England. Ample evidences of the all-pervading influence of caste and class distinction, in England, appear incidentally throughout Haydon's autobiography, as, for instance, in his constant looking to the nobility for patronage, as something admittedly due from that class to the interests of the country in general and of the artists in particular; in his naïve admiration of the gracious and refined manners of the nobility, in contrast with even those of the more gifted and cultured of the people; and in his noting, when a member of the royal family, the late Duke of Sussex, visits his painting room; that his manners, were as superior to those of the highest nobility, as were theirs to those of the common people!

With the impression produced by these cumulative instances, in contrast with the different social conditions then and always existing in the United States, there is borne in upon the mind of an American some sense of the far reaching and beneficient influence of the wise action of the founders of our institutions in prohibiting primogeniture and orders of nobility.

Through what pains and penalties the present freedom of the common people of England has been won, going back no further than the year 1800, can hardly be comprehended by Americans.

This sense of class distinction must indeed have been closely inwrought in the English nature, since it is so plainly apparent in the thoughts and actions of a man gifted with such clear perceptions.

That Haydon, who continually contended that the art sense and judgment of the common people were to be trusted; whose whole life was spent in the endeavor to demonstrate, contrary to a prevalent impression, that art was possible in England, and that the English people needed only the opportunity to develop a noble art; who earnestly strove to popularize and disseminate art training among all classes and conditions of men; who again and again successfully appealed to the judgment and art feeling of the common people, whose shillings, paid in at his exhibitions, so often averted disaster; should still have been so dependent upon the patronage of the nobility, so exposed to the senseless caprices of fashionable society, that when these classes failed to support him in his high calling, he must, perforce, perish; is indeed pitiable.

Haydon saw clearly, and taught everywhere, that there could be no excellence of design without thorough training in high art; that the artist and the designer needed exactly the same kind of art knowledge.

He urged this at a time when the Royal Academy, with incredible narrowness, on reluctantly admitting artisan pupils to its schools, refused to let them draw from the nude, and made them stipulate that they would never practice the fine arts. Could the selfishness of monopoly further go?*

In the light of such a revelation it is possible to realize the all-pervading influence of class distinctions in England, since a man of such rare genius, combined with unusual vigor of intellect and loftiness of spirit, recognizes as a matter of course the controlling power of royal and noble patronage.

Such being the case, it is easy to understand that Prince Albert's word on art education was all powerful, so that it is only to be expected that Englishmen should date the origin of the modern renaissance of artistic industries in England to the influence of such royal patronage; and truthfully, for without this patronage, if we may judge from the experience of Haydon, the successful inauguration of the new movement must have been long deferred.

In the United States, many of the obstacles encountered by Haydon in his efforts to develop English art do not exist; nevertheless there are for Americans most valuable lessons to be drawn from the story of Haydon's life and efforts.

The result has demonstrated that in all questions relating to the artistic education and development of the people, on which Haydon opposed himself to the existing authorities in art, and in the Government, he, was wholly in the right; and they, lamentably in the wrong.

It follows from this that there *are* ascertainable principles in art which must be the basis of all sound art education; so that, these having been thus clearly shown, there will be no excuse for any other people to commit the errors then made by the English.

Haydon seems instinctively, from the first, to have comprehended that the one essential knowledge for an artist was the knowledge of form. To be able to draw accurately, and then to know thoroughly the construction of the human figure, so as to be able to distinguish the essential characteristics from the accidental phenomena, was, in his judgment, the only sure foundation of artistic knowledge.

He ever inculcated a thorough knowledge and persistent practice in drawing and anatomy; not the anatomy of the surgeon, but that of the artist; and not only the anatomy of the human figure, but also of the animals, so that, by comparing them, the essential differences between man and brute could be recognized. In proof of the value of such training and such practice, he triumphantly pointed to the pupils trained by him in these severe preliminary studies. "Eastlake was my first pupil; then the three Landseers, Harvey, Bewick, Chatfield, and Lance, all distinguished men subsequently." (Letter to Miss Mitford, 12th July, 1843.)

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* The recent imposition of a duty of 30 per cent. on all works of art imported into the United States, as a protection to the American artists, savors somewhat too much of a like spirit of monopoly. It is due, however, to the great majority of American artists, to record the facts that they have publicly protested against this duty, and have petitioned Congress for the repeal of the law authorizing it.

Let us briefly recapitulate the art principles he announced as fundamental, and the consistent series of efforts made by this indefatigable man to promote the art development of his beloved native land; for his patriotic devotion to England is as pronounced is as his fealty to high art.

Haydon declared that the lack of any great art in England was due not to any want of ability in the people, but had resulted from definite and preventable causes. He proved this by showing that, before the Reformation, England had, in works of art, been on an equality with, if not superior to, the other nations of Europe.

He asserted that English equality in art could only be restored by definite action for that purpose. To this end he urged a comprehensive plan for art education, with a central school in London and branch schools all over the country. He insisted that to draw the human figure was as essential for a designer for manufactures as for a professional painter or sculptor.

He advocated the teaching of some knowledge of art in the universities, so that those who were to be the legislators and rulers of the country should have some knowledge on these subjects.

As the only means for developing a noble school of English art, he urged the necessity of the employment by Government, of artists to decorate Government buildings; showing how, of necessity, private patronage was unequal to this work.

When the narrow influence of the Academy prevented thorough art teaching for artisans in the new schools of design, he predicted their failure; and, not content with this, devoted himself with energy to establishing in various places similar schools in which art was thoroughly taught.

He wrote to ministers and petitioned Parliament unceasingly; on the subjects of Government employment for artists on Government buildings, and on the need of adopting a comprehensive system for the general art education of the people.

At length his plans prevailed, but himself and his methods were ignored.

The artists who were chosen for the work of adorning the new Houses of Parliament, few of whom had given proof of their ability to paint historical pictures, and all of whom were wholly inexperienced in the art of painting in fresco, had begun their work. Haydon, who closely watched their processes, saw that these were fatally defective, and at once publicly warned those in charge of the works of the danger arising from the wrong methods in which the frescoes were being painted. He declared that, unless proper methods were at once adopted, the paintings would not last fifty years.

No attention was paid to these words of warning, spoken by the only artist then in England who had ever shown that he could paint in fresco, as the old Italians painted; and whose fresco, a wonderful painting of the archangel Uriel, painted on the wall of his painting room—to prove that a genuine fresco *could* be painted in England and by an Englishman, which the connoisseurs had denied—had surprised and delighted the town, for "all the world," when it was first painted, made a pilgrimage to Haydon's painting room to see this wonderful fresco; which still remained, after a lapse of twenty-five years, as fresh as when first painted.

Not many years had elapsed before the evident decay of the frescoes in the Houses of Parliament, which threatened the speedy and utter destruction of the works, gave rise to the greatest anxiety, and more than verified Haydon's ominous predictions.

That to Haydon, should have been entrusted the task of illustrating the history of England on the walls of the new Parliament House, was at the time, believed by many, and seems, in the light of subsequent events, very clear; both because the plan was his, having been conceived, thoroughly thought out, and urged on the Government by him for many years, and because he had given proof of the possession of a genius equal to the conception of noble art, and of a mastery of his art equal to the execution of great works, besides having technical skill in fresco painting, then a novel form of the art in England; but, more than all else, because, in common with all truly great artists, he possessed the gift of discerning, inspiring, and attaching to himself younger men, capable themselves of becoming great artists; for it ought always to be remembered that it is only such followers of great men who have ever given, in art, fame to a school or a country. Phidias, Michael Angelo, Raphael, and Rubens were always surrounded by devoted followers and pupils, as are the great European artists of our own day.

No art academy ever did this, and no board of Government experts ever examined artists into fame.

The importance of this personal influence of the great artists seems strangely incomprehensible to the "institutional" men of the present day, who seem to imagine that everything can be compassed by competitive examinations and the contract system!

In art, at least, this is utterly fallacious. Genius is innate and individual; it cannot be created to order or imparted at will. When it appears, mankind can only cherish and rejoice in it; alas, that so often they should fail to recognize it until too late!

What is teachable can be taught; but no amount or excellence of teaching will transform an ordinary man into a Raphael, a Michael Angelo, or a Titian; nevertheless, while education cannot insure the possession of genius, it can enable men to recognize it where it exists, and to appreciate and enjoy its manifestation, and therefore it is, if for no other reason, desirable that some knowledge of art should be general among a people.

Haydon's position that the general plan and design of the work in the decoration of the Houses of Parliament should be under one controlling mind, and that the several artists, each taking the subject he was most competent to execute, should thus work to one definite end, while each was allowed perfect freedom in the treatment of his subject; was not only a logical one, but the one plainly adopted in the great works of the ancients and in those of the middle ages. The disastrous results of the opposite plan were demonstrated in the Parliament building.

The reasons, however, which led to Haydon's rejection were obvious and realized by Haydon himself, though they were by no means creditable to the authorities. In order to avert the shame of having this national work given to German artists, Haydon had, by an appeal to the public in the Times, thwarted this desire of Prince Albert; thereby, of course, in view of the sycophancy that surrounds a court, effectually destroying any chance of being himself chosen for the work.

When it was decided that the work was to be given to English artists, a public competition of cartoons was ordered; but before these were opened to the view of the general public, the judges, not one of whom was an artist, had rendered their decision. The first prize was by them awarded to the work of a pupil of the French artist De La Roche, this being the particular cartoon which, at a private view, Prince Albert had commended!

When the public were admitted, this decision of the courtier clique proved powerless to influence their verdict, and the first place was unhesitatingly given by the unprejudiced public to Haydon's cartoons; the next, to the works of the younger men who had followed Haydon's instructions and methods in art. The Academy work was so poor that even their friends the judges dared not give them any award. Haydon's methods, and his theories as to the capacity of English artists to design noble historical paintings, were thus publicly shown and vindicated, in spite of the antagonism of the Academy, or the subservience of courtiers. The work was thus finally given to English artists, but, owing to the causes just recited, with such unsatisfactory results that Haydon's son, writing some thirty years after, regrets that the Germans had not been employed; since they, at least, knew how to paint frescoes, and had loftier ideas of art, than most of the English painters who were employed have displayed!

Haydon had consistently and persistently urged that England should return, after a lapse of five hundred years, to the plan of employing painters to decorate with great works of art her public buildings; in order, by thus bringing together a band of enthusiastic young artists, to develop a vigorous English school of noble art.

He had also urged the establishment of schools of design all over the country, with the purpose of affording art training to artisans, so that England should produce artistic designers.

He was rejoiced when, after years of waiting, Parliament authorized both these undertakings; but soon found, to his bitter disappointment, that all sound principles were violated in the execution of these excellent plans.

He at once publicly warned the country that the schools of design would utterly fail of their purpose, and, as we have seen, he did not fail to warn the country against the dangers threatening the frescoes.

He predicted, also, the coming inferiority of English manufactures, because of the utter poverty of English design. The whole world was made aware, a few years later, at Hyde Park, how clear was his foresight and how true his predictions.

It is the fact that such prediction was possible, because founded upon unvarying law, that gives to this history of Haydon's art career in England its present significance and value to American readers. Haydon, and after him Sparkes, publicly declared that high art was absolutely essential to the production of any excellence in design for manufactures; but the Academy and the directors of the first Government schools of design, and subsequently even those in charge of South Kensington — these latter seemingly unconscious that the origin of this institution was due to the failure of English design, as predicted by Haydon — long persisted in ignoring this essential requisite, till finally the certain consequence of their fallacy covered them with shame.

Now, by the general adoption of the principles for which Haydon contended, England, since 1851, has witnessed such a wonderful recreation of artistic industries as triumphantly vindicates the soundness and worth of those principles; in view of such a verdict, by history, further discussion of them should be needless.

Notwithstanding these plain and well-known facts, there are, perhaps, still some Americans who will agree with that Massachusetts legislator who, in the session of 1881–'82, expressed himself as to the kind of artistic training desirable for the industrial interests of the State. He was a member of the mittee had been authorized to investigate and report on the management and methods of instruction of the State Normal Art School.* The majority report was emphatic in approval of the instruction, and in the opinion that the school was essential to the industrial interests of the State. Our legislator, in a minority report of one, thus dissents:

"From the conclusions reached in that part of the majority report relating to the general character of the school the undersigned must radically dissent. It cannot be admitted that its permanence is assured, or that the kind of education imparted there has any just claim for support from the State. What the commonwealth needs, and all that it ought to foster in the way of art education, is that part of it directly related to its industrial interests. For this the school was established. From its original and ostensible design it has widely departed. How, for instance, teaching water-color, modelling in clay, and modelling from the nude human figure, has any connection with industrial education it would be difficult to imagine."

Not only, was there found a member of the Massachusetts legislature capable of publishing that final paragraph, but the governor of the State, actually selected that particular paragraph, to quote and indorse in his next annual message to the legislature!

If this was possible in Massachusetts, twelve years after drawing had been introduced in the public schools, and after the intimate relations between thorough instruction in art and the development of these arts of design, on which the improvement of manufactures depend, had been repeatedly and eloquently stated; certainly the public elsewhere, may be excused for not realizing the direct relations of art studies to the industries of the people.

To all such persons, if any such there be, the papers of this appendix are commended, because by a careful perusal of them they may possibly be satisfied that the authors are competent to speak with authority upon these subjects; and so, when it is found that their united testimony is unvarying and emphatic, it may be convincing.

It is the same art, governed by the same laws, whether it is applied to painting on canvas or to the design of patterns of calico.

Since the facts given in connection with Haydon's career form a part of the recorded history of those times, it will, perhaps, not seem surprising that the present writer should have at first thought it strange that, in the literature appertaining to the new art educational movement, so little evidence should appear of similar efforts before the era of the Hyde Park Exhibition and the founding of the South Kensington schools.

Perhaps if public attention in England *had* been more fully called to these historical failures, it had not been possible for the authorities of South Kensington to commit over again the very mistakes that had ruined the earlier Government schools of design.

It may be remembered that Haydon was very doubtful as to the wisdom of giving to Government the *control* of these schools of art. He thought Government should aid, not direct; because the tendency of art academies and of Government officials, is always to develop mediocrity, not to stimulate talent or to encourage individuality, which last is almost universally a characteristic of genius.

What is true of the English people is also true of the American people: That cultivation of the fine arts is essential to the production of art designers, without whom the manufactures of a nation must inevitably deteriorate. That appreciation of noble works is not the prerogative of any class, but is common to all. That the principles of art are the same in all ages, the same on which Phidias wrought his immortal works, and that these principles can be taught. That a knowledge of art, its history, its laws, should be taught in all colleges and universities, because it is an essential part of a liberal education, and because it is a shame to a man in a legislature, or Congress, to be ignorant of such matters, and therefore, being incapable of forming an intelligent individual judgment, liable to be imposed on in regard to them. That the state should make use of the highest art in the decoration of the public buildings, both for the instruction and delight of the people, and also, because private patronage is unequal to the development and support of artists capable of great public works.

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* See Appendix D of this Report.

These propositions, which were urged by Haydon for forty years, are to-day as incontestable and as applicable in these United States as they then were in England.

From his earliest boyhood it was Haydon's habit to keep copious journals; in these he poured out his most secret thoughts and detailed unreservedly his varied experiences. Although in essential qualities of character he was markedly different, Haydon being devout, religious, and scrupulously conscientious in his attitude towards God and his fellow men, which, if the others were so, assuredly does not appear in their autobiographies; nevertheless one can hardly fail, as he reads the stirring incidents and the frank confessions therein set down by the English artist, to be continually reminded of the autobiography of that fascinating mediæval adventurer and artist Benvenuto Cellini, or of the extraordinary confessions of Jean Jacques Rousseau; for Haydon was, on occasion, as pugnacious as the one, and often, in his revelations of his secret thoughts, as unreserved as the other. There appears in the naïve expressions of the English artist, as in those of the Italian, a self-consciousness which, if the possession of great abilities had not been repeatedly demonstrated by the production of great works, would savor almost unpleasantly of self-conceit.

Incidentally in his pages there are given charming glimpses of the men and manners of the early days of the century, when the new writers who have given fame to English literature were appearing, and the stirring events that accompanied the rise and fall of the great Napoleon were being enacted.

Haydon had himself partially completed his autobiography; this, with extracts from his journals, compiled and edited by "Tom Taylor," was published in three volumes, octavo, in 1853.* During his life Haydon had published, in two volumes, the lectures to students delivered by him throughout England and Scotland;† these are still well worth the study of all art students who believe in thoroughness, and of all other persons who are interested in the history of English art. He also contributed, jointly with Hazlitt, the article on art to the seventh edition of the Edinburgh Encyclopædia, which was also separately published.*

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* Life of Benjamin Robert Haydon, Historical Painter, from his Autobiography and Journals. Edited and compiled by Tom Taylor, of the Inner Temple, Esq., late fellow of Trinity College, Cambridge, and late professor of the English language and literature in University College, London. In three volumes. London: Longmans, Brown, Green, & Longmans, 1853.

† Lectures on Painting and Design, by B. R. Haydon, Historical Painter, with designs drawn by himself on wood and engraved by Edward Evans. In two volumes. Vol. I: Origin of the Art.—Anatomy the basis of drawing.—The skeleton.—The muscles of man and quadruped.—Standard Figure.—Composition.—Colour.—Ancients and moderns.—Invention. Vol. II: Fuzeli.—Wilkie.—Effect of Societies on Taste.—A Competent Tribunal.—On Fresco.—Elgin Marbles.—Beauty. Motto to Vol. I: "And now I see how superior painting from nature is above everything that our imagination, assisted by our memory, can conceive." David Wilkie, aged 18, Aug. 22, 1807. Extract from a letter to a friend of his youth, Thomas Macdonald. Motto to Vol. II: "An artist who knows in what excellence consists, and has learned the art of using models, will be an overmatch for the greatest paintor that ever lived who should be debarred such advantages." Reynolds. London: Brown, Green, & Longmans, 1844. Vol. I, pp. X, 331; Vol. II, pp. XVI, 293

It gives a new idea of the voluminousness of the journals, and of the amazing industry of the man, to find, in 1876, his son, Frederic Wordsworth Haydon, who had the poet William Wordsworth for his godfather, publishing two bulky volumes, which contain a memoir of his father written by the son, accompanied by a large number of letters both from Haydon's correspondence with personal friends and those addressed to the authorities, and also a large amount of so called table talk — doubtless taken from his journals — and to observe how much of freshness and interest is to be found in these recent volumes, even after reading the earlier ones by Tom Taylor. In the biographical sketch of his father, and in his own reminiscences and running comments on the various events and persons mentioned, Mr. Frederic Haydon shows, by his vigorous and graphic style, that he inherits in no small measure the surprising facility and force of language that characterized his gifted father; in whose hand the pen, seemed as natural and powerful an instrument of expression as the brush. Haydon was in the habit, also, of sketching with pen and ink in his journals any subjects for new paintings which occurred to him, or suggestions for the pictures he was at work on at the time. Fac similes of some of these serve admirably to illustrate the volumes.

Upon the last page of the second volume, following an entry dated March 24, 1846, is this epitaph, which fitly closes the story of his eventful life:

> "Here
> Lieth the Body
> of
> BENJAMIN ROBERT HAYDON
>
> An English Historical Painter, who, in a struggle to make the People, the Legislature, the Nobility, and the Sovereign of England give due dignity and rank to the highest art, which had ever languished, and until the Government interferes, ever will languish in England, fell a Victim to his ardour and his love of country; an evidence that to seek the benefit of your Country by telling the Truth to Power, is a crime that can only be expiated by the ruin and destruction of the Man who is so patriotic and so imprudent.
>
> He was born at Plymouth, 26th January, 1786, and died on the (22nd June), 18(46), believing in Christ as the Mediator and Advocate of Mankind:—
>
> 'What various ills the Painter's life assail,
> Pride, Envy, Want, the Patron, and the Jail.'
>
> This I wish written upon my tombstone when my day comes.
>
> B. R. HAYDON."

This work, by his son, was issued in America the year following, with the imprint of Estes & Lauriat, publishers, Boston, Mass. An abstract of these volumes, with an introductory chapter by the poet editor, Richard Henry Stoddard, was also issued by Scribner & Co., New York, as one of the Sans Souci Series, thus making it generally accessible to American readers.

The following extracts are taken, the first from the preface, in which is given a general view of Haydon's art relations; then, from the closing pages of the personal memoir, giving the story of his life from the time when Parliament first took action; and, finally, such extracts and letters from the "official correspondence" as serve to show just what Haydon sought, and how persistently he continued his appeals, as ministry succeeded ministry in the Government of England.

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* Painting and the Fine Arts: by B. R. Haydon, Esq., and William Hazlitt, Esq.

PASSAGES IN HAYDON'S CAREER.*

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In the first place, the position Haydon took up in art from his entrance into London society, in 1804, down to his death, in 1846, has not been sufficiently understood. It was peculiar and original. It was in defence of the capacity of the English people for fine art.

At the beginning of this century nobody in English society admitted the claim. It was then the common creed that the English people had no sense of beauty in works of utility, and that English artists were only fitted to paint portraits.

In high art, *i. e.*, epic, dramatic, and poetic art, it was held by society that Englishmen could produce nothing worthy of admiration; that foreign specimens alone merited there reverence—consequently these were over-reverenced—that the climate of England was too dull, and damp, and foggy to produce artists with imagination, and the English people too gross, and too toiling after wealth, politics, and power, to have either time or perception for much else. The lower art of imitation was all we had feeling for or could aspire to.

The capacity of any living English artist to possess "genius" was scouted. We were not a gifted people. We could turn out an 80-gun ship, though only after the model of a French prize, and we could build a prison or a gasometer, but we could not produce an "oratorio" or a "requiem," construct a decent palace or gallery, nor embellish one built for us by exquisite design, highly wrought out, nor express fine thoughts or beautiful forms in works of common utility. Thus, by easy gradations, society, by 1812, had arrived at the conclusion high art was not our *forte*, and it was useless to attempt it. There are still persons amongst us who hold to this belief.

Haydon denied these conclusions, and his whole life was one hard struggle to disprove the necessity for their existence, and to prove that Englishmen could create as well as copy in art and design, as in mechanical contrivances. He did not dispute the variableness of the climate or question the ignorance of the people, but he denied that climate or situation were the cause of intellectual development. Foreigners had no special aptitude for design, and the perception of beauty was not the privilege of a nation or of a class.

He explained our national ignorance of art, first, by the Reformation, which destroyed fine art in England; secondly, by the absence of men of real genius to meet the liberal patronage of the day of Charles I and King William;† and, thirdly, in this century by local obstruction and insufficient patronage. He maintained the private patronage of the day was too petty and mean to support the production of great works for great spaces.‡ But he also asserted that the English people, ignorant as they were, had no lack of sympathy or feeling for works of the highest aim, when such works were put before them.

"Any man," he says (1807), "with the practical good sense of the race, would understand the Cartoons and the Elgin Marbles. They are intelligible to the plainest understanding."§ But the Cartoons were then almost inaccessible at Hampton Court, and the Elgin Marbles were shut up in a shed in Park Lane. "Show the people of

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* Benjamin Robert Haydon: Correspondence and Table Talk. With a memoir by his son, Frederic Wordsworth Haydon. With fac-simile illustrations from his journals. In two volumes. London. Chatto & Windus, Piccadilly. 1876. Vol. I, pp. xix, 469. Vol. II, pp. 484.

† The eminent artists in England at these periods were all foreigners, attracted by the high prices the patrons paid. Lely and Kneller were both Westphalians; the Vandeveldes and Varelst were Hollanders; Cibber was a Dane; Verrio a Neopolitan; Gibbons a Dutchman; and Laguerre a Frenchman. We had not a single man of any real eminence before Hogarth.—Ed.

‡ Take the instance of Lord Mansfield haggling over thirty guineas for Wilkie's "Village Politicians," trying to get it for fifteen, and "cheapening" the picture, as Hazlitt says, as if it were "a turkey or a goose."—Ed.

§ When the Elgin Marbles were subsequently shown to the public (1817) at the British Museum, Haydon and Wilkie were present on the opening day. Two workmen came in and looked long and silently at the marbles. "How broken they are, ain't they?" said one. "Yes," said the other "but how like life!" Wilkie nudged Haydon. "There," said he, "you might just study them to doomsday, but you could never convey their excellence by speech more completely." It is only fair, however, to Haydon's opponents to add that on another occasion he was present when a gentleman came in. After looking at the marbles for some time he said to the attendant, "And pray what may these marbles be remarkable for?" "Oh, sir," replied the man, "because they are considered to be so like life." "Like life!" said the gentleman, "like life! Why, what of that?" and, contemptuously turning on his heel, he walked out.—Ed.

England fine works," said Haydon; "give them the opportunity of study and the means of instruction; teach them the basis of beauty in art, and then give your opinion, if you like; but you have no right to condemn your fellow countrymen when you give them none of the advantages foreigners enjoy; when you have no schools for art instruction, no art galleries open to public view, no national collections, no schools of design, and when you refuse to allow that art has a public function, and absolutely withhold from it all public support."

To assert, under such circumstances, that art never under any circumstances could revive in England, he asserted, was "a preposterous folly." Neither Greece nor Italy had burst forth into their perfection at once.*

England, in the thirteenth century, in her knowledge of form, colour, light, shadow, and in fresco decoration, was in advance of Italy;† and had her progress not been checked by the Reformation, would have been at the head of Europe. Genius in the artist and taste in the patron, he admitted, must exist together to secure the permanent advance of art. But neither genius nor taste, he said, were dependent upon latitude and longitude.

In proof of his position as regarded painters and sculptors, Haydon pointed to Hogarth, Reynolds, Romney, Wilson, Gainsborough, Flaxman, Barry, and latterly to Constable, Turner, Wilkie, Mulready, Lough, Chantrey, and Bell, the product of one century, and that in spite of fogs and want of sunshine, poor pay, and the curious apathy of the nobility. What better proof was needed of the genius of Englishmen? "As for the people at large, would you," he asks, "expect any people to care for literature if you did not teach them to read? In like manner teach our people their A B C in art, and they would show that taste and feeling for art he, for one, believed them to possess."

In spite of the liveliness and perspicuity with which Haydon expressed his views, he was set down as a "young enthusiast"; and in England nothing more is needed. That mattered little, however, to him. He believed he was in the right. And whether he was right or wrong so far as regarded the inherent genius and taste of the people for high art, he felt he was right as to the benefit that would accrue to the nation if a disciplined system of "independent" education in art were established, and painting and design firmly and generously supported. The country, he asserted, was teeming with talent, which only wanted right direction, scientific instruction, and fair reward.

To this end, therefore, Haydon set himself from the first to remove obstructions to the extension among the people of a scientific system of art teaching, and to obtain from the Government and the nobility the recognition of art as a business of national concern, by the foundation of art schools and by the establishment of art galleries worthy of the nation.

His object was not only to refine the art, but to promote industry, encourage trade, and extend the knowledge of all classes. He wished to bring the nation to regard art with more serious interest, and to lift ideal art out of the darkness into which the Reformation had thrust it, and the hesitation of Reynolds, coupled with the apathy and ignorance of our nobility, kept it jammed down. And he saw further than his contemporaries.

Looking upon commerce as something more than a mere affair of sale and purchase, rather as a pursuit in which high skill, sound knowledge, and an organised connection must be combined with and will be lost without excellence in workmanship, as in material, he aimed at so educating our manufacturers and artisans in true principles of art and design as to secure to England, he hoped, that supremacy in manufacture which, if we could not design a beautiful pattern as well as make a good article, he foresaw must be lost to us on the conclusion of peace.

He had also the intention to train and educate a school of painters, making form the basis of their art, in order to show how thoroughly Englishmen could draw, design, and paint when scientifically instructed.

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* Ælian relates (lib. X, ch. 2) that in the early periods of Greek art the Greek painters were in the habit of writing underneath their paintings: "This is a horse;" "This is a tree;" "This is a bull;" &c. By degrees they got to express the species distinctly, then to foreshortening, then to draperies, expression, action, portrait, and ideal art.—Ed.

† Strutt states that between the tenth and thirteenth centuries English painters were habitually employed painting large pictures representing passages from history and the actions of great men. Such a one was presented, in the tenth century, to the church of Ely, by Etheleda, widow of Berthwood, Duke of Northumberland, in which she had "caused to be painted the history of the great actions of her deceased lord," in order to preserve the memory of his valour and of his virtues. Evelyn, in his diary, September 20, 1672, speaks of the palace of Sir Robert Clayton, in the Old Jewry, as containing a superb banqueting room, wainscotted with cedar and adorned with battles of gods and giants in fresco.—Ed.

Thus it was that, from the first, Haydon made a place for himself in the art.

He refused to allow that art was a mere matter of amusement for the leisure of others, or of family portraiture, or of household decoration.

He contended, against patrons, nobility, and members of Parliament, that the subject of art and design was a great educational and economical question they should look to, and which it behooved the nation to look to, or the nation would suffer for its neglect.

A knowledge of the beauties, capabilities, and actual practical utilities of art, Haydon maintained, was "essential to the general interests of England," and more or less applicable "to every situation and circumstance of her national life."

"Design," he writes, "is the basis of all art, and a basis of such breadth that manufactures, as well as art, rest in its excellence." That he was the ardent and determined advocate of the early training of all classes in the principles of art and design will be easily understood. "We are inferior," he argued (1808), "to the French and Italians of the fifteenth and sixteenth centuries; beyond all conception inferior to the Greeks; and not even equal to the ancient Egyptians in our designs for manufactures. And why? Because our pursuits in art are low; because we do not cherish that style as a nation which is the basis of excellence in those departments of art; and because we do not strive to raise the taste of the nation, but keep it down to the level of personal vanity, trading propensities, and pecuniary success."

To cure this defect, Haydon insisted, in addition to the formation of a central art gallery in London, with provincial galleries for the great towns, that scientific instruction in the true principle of art and design should form part of every scheme of education for every class throughout the country. For the rich he would have art professors at the universities. For the middle classes and mechanics he proposed a central establishment in London, with branch schools of design, separate, independent, and distinct, throughout the provinces. The course of first instruction to be the same in all, though varying in degree, viz, the study of the human form, and then ornamentation, design, or painting, as the case might be.

One thing he appears to have aimed at was to avoid the danger of subjecting the schools to the official direction and control of the Government or of the Royal Academy. He would have the schools form part of the national system of education, but independent; otherwise they would soon sink to the level of mere drawing schools. This was partly his dread of that depressing academic teaching, and partly his suspicion of Government departmental control, which reduces everything it touches to one dead level of uniform mediocrity. "In matters of art and design," Haydon used to say, "Government should help, but not direct."

With regard to our rich men, who heard nothing of art at college, and who thought frivolously of it in after life, his object was to make them learn to draw the human figure. He did not wish to tease them with a mass of technical detail, to which they would pay no attention, but rather, by teaching them only to draw, give them opportunities of obtaining an insight into the real powers of art, so as to move their sense of beauty, quicken their sympathies, and lay the foundation for that feeling for the essential excellence of art which he hoped would insensibly follow.*

Thus, in his ardour and public zeal, he trusted we should not only get excellence in design for manufacture among our artisans, provided the broad and true principles of art instruction were followed, but amongst our rich men and nobility a race of statesmen and politicians would arise able to distinguish accurately and appreciate the merits of painting, sculpture, and architecture, competent to deal with art questions—than which nothing in those days was less understood in Parliament—and qualified to become enlightened patrons, worthy of the genius of the country. Were this so, we should no longer be left open to the reflection that our educated, wealthy, and high-born men grow up and "issue out to their respective public duties deficient in a feeling the cultivation of which has brightened the glory of the greatest men and most accomplished princes."

But Haydon urged upon Parliament and the public that nothing satisfactory could be effected without concentrated and permanent support from Parliament.

Parliament, he said, must aid and support these schools of design, these public galleries, these professorships, and, for the purpose of keeping up the historic art of the country and the splendor of the nation, must employ English painters, as the continental painters were employed by their respective Governments, upon a series of national pictures, in fresco or in oil, for the decoration of our public buildings, public offices, law courts, town halls, churches, cathedrals, and Houses of Parliament. In short, Parliament must give painting and design that public support which Greece and Italy gave, the glory and fortune of whose great painters and professors of art was not left to depend upon the limited wants or caprice of individuals, but on the performance of great public works, for which their reward was a portion of the public expenditure.

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* Charles I was so convinced of the necessity of educating the English nobility in the principles of art that he established an academy for their special instruction. It was called the "Museum Minerva," and was organized in the house of Sir Francis Kingston, in Covent Garden.—ED.

Such were the views and opinions Haydon declared and urged for forty-two years, in public and private, by every means in his power; by pamphlets, by public letters, by appeals to ministers, by petitions to Parliament, by lectures to the people; and he laboured, I regret to have to say it, not only single-handed, but opposed at every stage by the authority that should have helped him most, "the Royal Academy"; and upon no better plea, apparently, than that advanced by President Sir Martin Shee, viz, to support Haydon's views would be "injurious to their custom."

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In all this, it is now admitted, Haydon took a just view of the position and wants of the art, the Academy, and of the country.

The Council of the Royal Academy thought otherwise. Nothing dies so hard as corporate abuse. There is a Judaic obstinacy about its defence that is magnificent. The Academy Council were not wanting on this occasion. They drove Haydon from their doors, and a desperate and determined struggle ensued between the two.* That Haydon never flinched is matter of fact. We know that for four and thirty years, under every circumstance of harass, anxiety, mortification, and ruin, four times repeated, he kept up this struggle, which, I believe, would have killed most men in the first four years, without the remaining thirty. But, then, he was essentially one of Horace's men: "Quem neque pauperies, neque mors, neque vincula terrent."

How he forced society and the public to listen to and endorse his views, how nearly he succeeded in "reforming" the Royal Academy in spite of themselves, first with the King (George IV), then with the Duke of Wellington, and latterly with Parliament, are also matters of fact. But if he did not entirely succeed in carrying his plan for the "reform" of that institution, he first brought the Academy before a committee of the House of Commons, 1836–'38, and, in spite of their determined resistance, broke the charm of their assumed privacy, and, left Parliament and the public a valuable precedent for future use.

He lived, also, to see his own plan for the establishment of a central school of design for London recommended to Parliament and adopted. And although the extension of his plan to the provinces was refused by the Government, obstructed by the Board of Trade, and intrigued against by the Royal Academy, he succeeded, against all three authorities, in rousing the people to the imperative necessity of establishing such schools, and between 1836 and 1842 he carried his plan in all the principal towns triumphantly.

He lived, also, to see public employment given to British artists by the state, and though he was kept out of all share in the decoration of the Houses of Parliament, yet his "principle" was acknowledged and acted on, and the "plan" was his own.†

If, in his prime, he died, suddenly and sadly, broken-hearted by pecuniary distress, yet he had lived long enough to see much that he had struggled for accepted, and to receive assurances that the worst abuses of the old academical system were swept away, and the path made easier for the young painters coming and to come upon the stage.

But to the last, it is not to be forgotten, he predicted much that is happening—the loss of good drawing among our artists; the break down of our schools of design, from "a mean desire" of the authorities in art "not to raise skilful designers" lest "the established artist might be interfered with" (letter to Kirkup, 26th June, 1844); and the revival of the old bitterness and antagonism between the lay artists and the Royal Academy if this institution was not "thoroughly and effectually reformed by Parliament." (Vol. I, preface, pp. vii–xviii.)

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* The late Lady Holland, in Lord Melbourne's hearing, once drew a parallel between Haydon and Ali Baba's brother. "No," said Lord Melbourne, "that is not a fair case. Haydon did not want to rob the Academy; he wanted to add to their wealth. Besides, he not only brought 'forty thieves' upon his back, but all the rich men behind them; and though they have often quartered, they never killed him." Lady Blessington told me this.—Ed.

† It is the fashion nowadays to attribute to Prince Albert the foundation of our schools of design, and the idea of the decoration by paintings of our Houses of Parliament. Without the least desire to depreciate the undoubtedly great services to art of Prince Albert, it is to be observed that his late Royal Highness did not settle in this country before 1840, and that he took no active part in the art affairs of England before his appointment to the head of the Royal Fine Arts Commission of 1842; whereas the "schools of design" and the public employment of our painters in the decoration of the Houses of Parliament had been proposed by Haydon for the previous thirty years, and was, *de facto*, carried by him between 1836 and 1842.—Ed.

CLOSING SCENES.

We have arrived at the last twelve years of Haydon's life. On the vote in Parliament for a national gallery, in 1832, whether by reason of Haydon's direct efforts or previous statements I know not, but the fact of our inferiority in design to the French, one of his favourite examples and arguments, was strongly insisted on, was not denied by the Government, and the result was, at last, the founding of a national school of design.

In the scheme for this school Haydon does not seem to have been consulted by the Government, who appear to have preferred to leave the matter in the hands of the Royal Academy. He looked on curiously for the result.

In the course of 1835 the Government was delivered of what he declared to be "an abominable abortion"—a mass of radical defects and meanness—a "school of design" which was only to teach pattern drawing, and to artisans alone. Haydon's object with regard to schools of design was, as we have seen, to establish a great central school in London, independent of the Royal Academy, with branch schools in the provincial towns; the course of instruction in each to be the same, though in different degrees, for artists, artisans, and amateurs, and to be based on a knowledge of the human form, the source of all fine art.

All decorative art, Haydon maintained, that was not based on fine art was unworthy the name of art altogether. "I wish every door painter," he said "to be taught to design and draw the figure;" that is to say, he aimed at making the humblest workman acquire a scientific knowledge of the principles of his work. He desired to foster in every pupil that spirit of enquiry and research which should develope the highest skill in every craft.

But this large and comprehensive scheme, which would have restored the relations in which the pupil formerly stood to his master, and have raised a race of powerful designers for art and manufactures, did not fit into the views of the bureaucrats nor suit the interests of the Royal Academy.

If Haydon's great public plan were carried out it would substitute feeling for rule; it would also draw the art students from the official Academy school, and lower the influence and reputation of the Royal Academy, or compel its reform.

Both parties, therefore, prepared for a struggle. The Academy and the Board of Trade resolved to stifle Haydon's scheme by making the new school dependent on the Royal Academy school, and by strictly maintaining in the new school, as in the Academy school, the separation between artist and artisan.

The artisan was not to be taught to draw the figure, and the school of design was to be kept as an inferior department of the Academy school, and used merely for instruction in block and pattern drawing.

For this purpose Mr. Poulett Thompson, then president of the Board of Trade, appointed a majority of academicians on the council of the new school, and these gentlemen, headed by (Haydon's old friends) Chantrey and Calcott, immediately passed a series of resolutions excluding the study of the human figure from the course of instruction, and effecting other arbitrary changes which struck at every point of Haydon's scheme. For example, they required from each student a written declaration that he would not practise in England as a painter of portrait, history, landscape, or animal life, nor, I believe, as a sculptor. The object of this is clear. It was to prevent competition with established artists, and to maintain the official ascendency of the Royal Academy.

Meantime, Haydon, hearing of what it was intended to do, determined to countermine, and deeply. He besought Lord Melbourne to grant, and Mr. Ewart, M. P., to obtain, a select committee to enquire into "the best means for extending the knowledge and principles of art and design among the people." Lord Melbourne, who dreaded anything like a contest with professors—"God help the minister," he once said to Haydon, "who interferes in art"—had no objection to pass the responsibility over to a select committee, and thus Mr. Ewart's committee was obtained during the session of 1835.

In order to aid this committee to the utmost of his power, and to go further, in time, Haydon resolved, during the winter of 1835–'36, to deliver a series of lectures in London on "Painting and Design." I believe the suggestion was first made to him by Mr. Wyse, and for some time he resisted it. He did not wish to appear prominently before the public. At length he yielded, and went to work.

His object was to awake public opinion on the vast importance of a knowledge of design to our manufacturers, so as to strengthen Lord Melbourne and force the Board of Trade to establish a large and comprehensive system of schools throughout the country. Thus it was that Haydon came before the public as a lecturer on art and design. He had no other object in view. * * * His lectures on "Painting and Design" are published and well known. He dedicated them to Wordsworth. They are twelve in number, are forcibly but negligently written. Haydon was too eager and too earnest to spread the truth to waste time in ornament, but he might have been more careful and exact in his choice of words.

He insists on a knowledge of anatomy as the true basis of the arts of design. He entreats English students, after the manner of the old masters, to stay at home and study, for that we have in the Elgin Marbles and the Cartoons finer things than Italy ever possessed or possesses. He lays down sound rules for their guidance and instruction. * * * In his conclusion on the first night he said: "If by my efforts I can advance your taste or refine your feelings for high art, and prove its connection with your various callings; if I can rekindle the lost feeling for its national importance, or prove its immense value to manufactures; if I can give you a deeper insight into its eternal principles than can be gathered in the heat and glare and varnish of a spring exhibition, *one* of the great objects of my life will be realised. But, remember, nothing will, nothing can, be effectually of use till schools of design be established in the great towns, of which the knowledge, the deepest knowledge, of the human figure must be the corner stone, and high art has made its legitimate impression in high quarters, and by state support is placed at the least on a level with portrait.*

At the close, the audience enthusiastically cheered him again and again, and from this night Haydon's reputation as a lecturer upon art was established. In a few months he was overwhelmed with offers of engagements in all parts of the country, and up to his death, in 1846, had the greatest difficulty in selecting without giving offence. Nor did he wish to give up too much of his time to this labour.

Mr. Ewart's select committee sat and took evidence during the session of 1836. Haydon was one of the principal witnesses examined. He laid his whole plan for the foundation of a system of schools of designs before the committee, and he laid before the committee, also, a plan for the decoration of the House of Parliament by a series of great paintings illustrating the principles upon which the building is erected, and he pressed the committee to urge public employment for the English painters of history. In their report the committee adopted these views so far as they thought it advisable. His plan for schools of design they fully accepted.

We must not leave this committee without remarking it was the first Parliamentary committee that insisted upon calling before it the president and council of the Royal Academy and subjecting them to a searching cross-examination.

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But unquestionably one result of the labours of this committee was the immediate uprising of our "schools of design" under Haydon's vigourous touch, and the appointment of the fine arts committee of 1841.†

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Haydon opens the new year (1837) by a vigourous remonstrance with Mr. Poulett Thompson, the president of the Board of Trade, upon his management of the London School of Design. Mr. Ewart had told Haydon that all was going wrong; that Poulett Thompson was making an "Academy job" of the whole thing; and the only course left was to start an opposition school.

With his usual habit of taking his bull fairly by the horns, Haydon, as soon as he had made himself acquainted with the facts, went off to the Board of Trade and sought out Mr. Poulett Thompson in his room. "I told him," he writes, "that I had heard a resolution had been passed that no student would be admitted to the School of Design unless he signed a declaration that he would not practise history, portrait, landscape, or sculpture. He denied it, and said, 'Who has been telling you these stories?' 'But has it been passed?' I asked. No answer. I told him I heard it was resolved the study of the figure was not necessary. 'And is it,' he said, to 'fellows who design screens?' I did not say, 'You ought to know it is,' as he ought. I then told him the figure was the basis of all design, of which he seemed totally incredulous. * * * I said, 'Is it consistent with the principles of Lord Melbourne's Government to make the council (of the School of Design) wholly academical?' 'I selected the best artists. Calcott is the best landscape painter, and Chantrey, surely, at the head of his profession!' 'No, he is not,' I replied. 'Who is higher?' 'Surely Westmacott has done more poetical things than Chantrey, and so has Bailey. And why are not Martin and Rennie on the council?' 'What pretensions has Rennie?' 'He does the naked, and is a judge of what is necessary for a school of design.' 'Why is he against the Academy?'* 'On principle.' 'But he has no subject of complaint.' 'That is the very reason his opinion is valuable. Depend on it, if the figure be not made the basis of instruction it will all end in smoke. I have no ultimate object; I have no personal wishes; but if you only put academicians on the council, you will only become their tool.'" Mr. Poulett Thompson was not to be convinced, and Haydon left him.

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* Sir Charles Eastlake, in his last address as president of the Royal Academy, at the annual dinner, bore witness to the great change these schools of design had wrought in the public appreciation of art. "The change to which I allude," he said, "has been chiefly brought about by the application of the fine arts to what is called industrial art, and more especially in schools of design." Eastlake knew well to whom this was due, and the enormous exertions Haydon had made between 1835 and 1842 to carry the principles of high art into his schools of design, against the determined opposition of the academic council of the London School of Design; but it would have been taken ill if he had spoken out Haydon's name at an Academy dinner, so strong was the prejudice against him.—ED.

† If our schools of design, which Haydon succeeded in getting established at this period, have not fully answered all the expectations he formed of them, the blame is not his, but, first, that of the central authority in London, which thwarted, vexed, and crossed him while he lived, and as soon as he was dead used its influence to obtain a departure from his judicious rules. A competent authority writes to me recently as follows: "Schools of design have not done what was expected from them, mainly, I believe, because they have been led into a wrong road by the teaching of South Kensington, which has encouraged an exaggerated mechanical precision of finish, instead of designing on the large and true principles, such as your father would have insisted on."—ED.

In a few days (January 29, 1837), Haydon paid a personal visit to the Government School of Design, and, feeling satisfied from what he saw of the futility of the whole scheme, he wrote Mr. Poulett Thompson a characteristic letter, to be found in the "Correspondence," and at once joined Wyse and Mr. Ewart to set on foot an opposition school of design. In this they were heartily supported by Mr. Robert Foggo, Hyde Clarke, and other able men, and before very long, to the astonishment of Mr. Poulett Thompson, a "Society for Promoting Practical Design" was publicly announced, and the school opened, first, in the old house of Sir Isaac Newton, and then moved to the great room of Saville House.

Mechanics were invited, and came in large numbers. Drawing from the antique was taught; lectures by Haydon, Hyde Clarke, Foggo, and Lattello on anatomy, design, colour, fresco, &c., were delivered; and Haydon introduced a fine female model and set the workingmen to draw from her. The school became immensely popular and soon filled.

The object of Haydon and his friends, in this course of action, was not to ruin but to improve the Government School of Design at Somerset House, by drawing their students away, and thus giving the council a sharp lesson, that if they wished to exist they must enter into competition with the Saville House School, when the Saville House committee intended to reduce their fees, extend their system of instruction, and draw the Board of Trade on into a position from which they could never again retire. Then the Saville House school might be closed or not, as seemed best. * * * The Saville House School flourished exceedingly. It drew students from all quarters. But the greatest good, and the one it aimed at, it did effectually. It forced the Government school at Somerset House to compete for existence.

As a counter-attraction to Haydon's female model, the Somerset House School introduced a male as well as a female model, and thus forever yielded the point of the study of the human form. This, of course, drew all the women students to Somerset House, as well as many of the men.

To draw on Somerset House still further, Saville House then reduced their fees. Somerset House met them again by further liberality and an improved management, and ultimately by the repeal of their ungenerous regulations, till at length, in 1839, Haydon and his friends, finding their object fully attained and the Somerset House School then working on a sound basis, withdrew from Saville House, and the school was shortly after closed. * * *

Haydon's success as a public lecturer was certainly unprecedented. The extent of his knowledge, the originality of his style, the simplicity of his explanations, and the readiness with which, with a piece of white chalk, he dashed out on a blackboard the human figure, a head, a limb, or any part of the human form, delighted his audiences, while the inimitable way in which he leaned over his reading desk and took them into his confidence, and threw good stories, fresh from life, into his "lecture," doubled its impression and made him a prodigious favourite.

His manner was natural, his voice clear and musical, his delivery rapid and impassioned, and the evident sincerity with which he drove home what he called "the naked truth" completely carried his audience with him.

Force of character and elevation of mind, coupled with such courage and sincerity, always maintain a powerful sway over any body of men. I have been told that in the north of England the audience sometimes would spring to their feet like one man, and cheer him to the echo. At another time their intense silence was painful as they listened to him appealing to their nobler qualities by condemning their defects, denouncing their worship of wealth, their idolatry of greed and gain, and telling them they so sunk their nobler feelings in their struggle for gold that intellect, character, and service in England were as nothing in comparison with wealth; and yet when they had got it they had no knowledge how to apply it to nobler purposes than to try and make more! Then, urging them to strive to rise above this, he would entreat them to seek to combine their thirst for wealth and power with a love for the fine arts, and to give encouragement and support to them in proportion to their means.

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* This was the pinch.—Ed.

His pride in old England, his passionate love of what was lofty and true, his contempt for everything low and mean, his ardent appeals to the higher self that is within all of us, and his intense belief in the power of self-improvement affected his hearers deeply, and there can be no doubt did incalculable good in our manufacturing towns.

The temper of such a man harmonised with the temper of such a people in its energy and sublime self-confidence, as in its earnestness and patriotism, and he never flattered their prejudices. He appealed to their innate love of truth and fair play, and from the mouth of so earnest and sincere a man this had a double effect.

What delighted Haydon especially in the provinces was to find how thoroughly independent of London opinion and London feeling were the inhabitants. Each county was as complete in itself, and its feelings and opinions, as in the days of the Heptarchy.

Carried to extremes this becomes a defect and narrows the feelings and sympathies, but to a certain extent it is highly desirable as a check upon that bane of all civilised communities and settled governments, bureaucratic and administrative concentration.

To the people of the provinces Haydon found London only the capital, the seat of the court and Government, but nothing more. The good folks of Manchester, Liverpool, Leeds, Newcastle, and Hull cared no more for London opinion on men and things than they cared for the 3 per cents. as an investment for their gains; they held their own opinions, as they held their own means of investment, and were complete in themselves.

Brought into contact with new men under new conditions, Haydon soon found its advantage. The men he met now, if not quite so refined in manner or generally so well informed as in London, were men of great energy, rapid apprehension, and free from that languor and prejudice which marks the supercilious London man. Commissions were freely offered to him; two from Liverpool for historical pictures, life size, one a sacred subject, for the Church of the Blind Asylum; another for a painting of the Duke of Wellington for their town hall; and many gentlemen of Manchester, Leeds, and Hull, &c., requested him to paint cabinet pictures for their houses.

The historical commissions mightly pleased Haydon, for they showed what he had always asserted, that the English people had feeling for high art, that is, historic, poetic, and ideal art, though neither the Government nor the nobility would admit the fact or seek to develope the feeling, and the academicians were incapable.

Yet, with all his success, he was not satisfied. He foresaw great dangers. He felt and predicted that if the schools of design were ever made part and parcel of an official system of education they would soon sink to the level of mere drawing schools, subordinate and of little effect. "Schools of design," I find him writing, "should be separate, independent, and distinct, on the principle that the knowledge of the human figure is the basis of all knowledge in art," and that "any school of design where this principle is not the basis will fail."

He complained that lecturing disturbed his mind, and he questioned very much if the effect of his twelve lectures, with all the ability and learning he expended on them, was not "small" compared with that "of one great picture."

But the work had to be done, and there was no one who could do it, or would do it, but himself, and he never shrunk from a duty because it was irksome. The first question he asked in every town was, "Have you a school of design?" The almost invariable reply was, "No, we have not"; or, "Yes, we have; but it is not open."

Then he would set to work and get together a committee, and establish or re-establish, as the case might be, send them down casts from the antique, and get them quickly to work on the study of the human form.

To all classes he pointed out the vast the vital importance of scientific knowledge of design, founded on a knowledge of form, colour, light, and shadow, to success in manufacture; and how, without this knowledge, the time would speedily come when English manufactures must be driven out of the markets of the world by those who possess that knowledge *plus* their cheap labour.* Haydon's success as a lecturer upon art appears to have been a thorn in the side of the Royal Academy. They hardly knew how to deal with it.

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* It is amusing now, in 1875, forty years after Haydon's provincial labours, to read the addresses of our public men upon the want of our knowledge of design, as if it were a new discovery.

Haydon, as we see, predicted all that has come to pass seventy years ago, and laboured all his life to try and prevent it by securing for our workmen a scientific education in the principles of their craft.

And his reward is never now to be mentioned by our public speakers, who give all the credit for the foundation of our schools of design to his late Royal Highness the Prince Consort, whose services to English art were great indeed, but who, nevertheless, did not arrive in this country until 1840, by which time Haydon had set our schools of design at work.—ED.

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In the Government they had two great allies, Mr Spring Rice and Mr. Poulett Thompson, the one chancellor of the exchequer, the other at the Board of Trade. These the Academy manœuvred so skilfully as to induce Mr. Spring Rice to let them occupy one-half of the National Gallery, in spite of Haydon's utmost efforts to keep them out for the sake of the public, and make them find a house of their own; and they induced Mr. Poulett Thompson to believe that schools of design, as projected by Haydon, for the provinces, "were perfectly useless, as the failing condition of the London school," which they had themselves brought about, "clearly proved."

Art education at this period was a business so delicate and so easily obscured and perverted that Haydon's indignation was natural at finding his best efforts at Manchester and other towns suddenly paralysed by letters from Mr. Poulett Thompson discountenancing the formation of schools of design in the provinces, and throwing obstacles in his way at every corner.

The object of the authorities was to prevent the spread of a sound knowledge of design, lest the profits of the professional artist should be interfered with. It was the old story over again—monopolists fighting for their monopoly against free trade.

This mischievous action of the Academy met Haydon everywhere. Yet he could never bring it home to them. They always used some official cat or the other to take Haydon's chestnut out of the fire. Now it was a prime minister, then a chancellor of the exchequer, then a president of the Board of Trade. It was like a spirit in the air, an impalpable "something" he could not grasp and strangle, but which never ceased to undermine all his efforts for the public, and threaten to overturn them entirely. Really, the violence of his anger may easily be understood and excused. This—

"Playing the mouse in absence of the cat,
To taint and havoc more than she can eat,"

compelled him to appear to the public as irrationally suspicious. Yet, if he had consented to sit quietly at home, art and design might have been thrown back another fifty years. Besides, the proved inefficiency of academical teaching was ample justification for his action, to say nothing of their present motive.

And there can be no mistake about the motive, any more than about the action of the Academy over this question of schools of design. Their object was to render the scheme inefficient by making it subservient to the academical teaching.

It is true that Haydon succeeded inspite of them, and founded independent schools, for which they now seek to claim credit. But their real position from 1804 to 1842 was this: they denied the necessity for the artist or artisan to learn to draw the human figure. they refused permission to the artisan to do so, and they protested that pattern draughtsmen had no need of such knowledge.

If they believed in these opinions, what can be thought of their sagacity? And if they advanced them without believing in them, what trust can be placed in a body of men capable of such deceit?

This is their dilemma. Their friends may attribute their opposition to Haydon to wilfulness or to want of comprehension and foresight, but surely that is the extent of their choice, for no one attempts to deny their determined opposition to Haydon.

Reform is in all things a long and labourious work, and great allowance is due to the difficulties; "but none," says Arnold, "for the dishonest spirit which creates difficulties when it cannot find them, and exaggerates them when it can!"

The years 1837, 1838, and 1839 may be said to have passed quickly and prosperously for Haydon; that is to say, he was actively employed with his schools of design, and was never arrested. Under pressure of the violent opposition of the Royal Academy through the Board of Trade, he flew from town to town—the speed of the railroad suited the man—lecturing, talking, persuading, and labouring in every quarter to impress the inhabitants with the importance to our manufacture sof the scientific knowledge by designers of form, colour, light, and shadow as the basis of true design, and in the excellence and carefulness of which all design and manufacture assuredly rest.

He conceived the idea of a federation of towns in favour of schools of design. He also, I find, kept up an active private correspondence with the prime minister, Lord Melbourne.

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Before the end of the year (1839) Haydon delivers a fresh course of lectures in Leeds and the north, and records that he finds a strong feeling for truth in art spreading rapidly among the provinces. "The importance of high art," he says, "is no longer a matter of doubt" He notes that at Hull he was begged to get casts of the Theseus and Ilissus; that his school of design generally, and in spite of the efforts of the Academy to "burke" the whole scheme, promises well, and that all things are tending "to gradually fit the next generation for expecting and being able to relish better things.

In short, the general result by 1840 was satisfactory. He had carried one of his objects, the establishment by the Government of a central school of design in London, though its management at present was not what he desired, and he had succeeded in establishing and in reviving schools of design in our principal provincial and manufacturing towns, on his own plans, and he had, by his lectures and personal influence, roused the people to the importance of design to manufacture, and to the value of art and design in the education of all classes. It had taken him thirty years of hard struggling, but he had done it at last, and when he least expected it, and by means and in a manner he long thought hopeless. But "he that considereth the wind shall not sow, and he that looketh to the clouds shall not reap." It is the wise man who makes more opportunities than he finds.

Yet, let us not forget to give a share of the merit where it is due. It was the unreformed Parliaments Haydon could not interest. With the reformed Parliament of 1832 he found a fresh class of men, keen, intellectual, and energetic, who saw and quickly appreciated what he was aiming at, and they helped him heartily.

To Mr. Ewart, Mr. Hume, Mr. Wyse, Haydon was under the greatest obligation, nor should Lord Melbourne be forgotten. He did all he could. The aristocratic principle in the cabinet was too strong for him to do more. For, I think, there can be little doubt one element in the hostility of the Board of Trade to Haydon's schemes for schools of design arose from that preposterous exaltation of the aristocratic principle which has ruined so many Whig cabinets.

The feeling was against Haydon because he desired to educate the artisan like the artist. "Why educate a journeyman above his class," was asked. Once a journeyman, let him be educated as becomes a journeyman, and let him be a journeyman still.*

This disinclination to allow others to raise because you can get no higher is only another form of the envy of the idle against the industrious. The people of Britain, who are teeming with brains, are like animalculæ in a hydrogen microscope. Turn them down one way, they come struggling up another, till at length the seething mass, oppressed by this repression, dies or bursts its bounds. The true policy is obvious.

Haydon had now to secure the ground he had won from academical intrigue, and to push on to his greater project, the decoration of the new Houses of Parliament under the authority of the state; in other words, the public employment of the English historical painters on a great work of public decoration. This, from the first, had been "a fixed idea" with Haydon. All his petitions to Parliament, all his correspondence with ministers, bear most strongly upon it. Possibly for this reason it was made his chief disappointment.

For the next five years we find him incessantly employed in writing, painting, lecturing, and teaching. He painted several large pictures — the "Anti-Slavery Meeting," a picture of one hundred and thirty Quakers, by which, as Tom Moore amusingly put it, he "infected the Broad Brims with the love of the fine arts;" the "Maid of Saragossa;" "Uriel;" "Alexander Killing a Lion;" a replica of Sir Robert Peel's "Napoleon," for the King of Hanover; the "Curtius," and numerous cabinet pictures. He continually lectured in the provinces, and for the first time at the Royal Institution in London, and also (1840) at the University of Oxford. Here he was received by the vice-chancellor, Dr. Shuttleworth, and the heads of colleges, with marked distinction. The vice-chancellor placed the Ashmolean Museum at his disposal, and brought crowded audiences to hear his six lectures. It was a great and deserved success, and did honour to the vice-chancellor and those who received Haydon with such liberality. He spoke of his reception at Oxford ever after in warm terms of grateful recollection.

But the chief business of his life in these years, over and above all this arduous work, was with his plan for the decoration of the House of Parliament. Haydon's plan, from its first conception by him in 1812, had been to illustrate the principles for which the building is erected, and to seek for acceptable examples in the history of the world. Then he proposed the painters be selected, and, placing one man at the head of all, give to each painter a certain space, which he should be required to fill with the illustrations of the particular principle allotted to him.

For example, he proposed to give one man anarchy, another man despotism, another democracy, and so on; subjects selected with the view to show how the English people have known to combine the greatest security to property with the greatest freedom of action.

This was Haydon's plan — a simple and complete one, and assuredly the one calculated to produce a series of works worthy of a great nation. But, unhappily, this was beyond our nobility. It went too far from them, and, moreover, it involved a style of art they did not understand, and did not approve of because they did not understand.

However, in 1841 a fine arts committee was appointed to consider this particular matter. Haydon, from the first, does not seem to have had much hopes of it. Mr. Ewart's committee had disappointed him, and his experience of parliamentary committees on matters of fine arts, and from which professional painters, the only men who knew anything of the subject, are necessarily excluded, was not satisfactory. I remember his saying, "It will end as Lord Grey said, 'in a gigantic job.'"

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* It is curious to see this principle now advocated by a once distinguished radical, Mr. Roebuck. Did he never try to raise himself? Was he never ambitious of becoming home secretary? Fie! Mr. Roebuck.— Ed.

We have followed his career now from the days when he used to talk with Lord Mulgrave over the absence of decoration in our public buildings to those when, in 1812, he first conceived the idea and sketched the plan of a pictorial decoration for the Houses of Parliament, on the plan just given, down through all those ineffectual efforts with ministers from 1814 to 1832, when Lord Grey assured him there was no chance of doing anything of the kind, and on to Lord Melbourne, who promised him, in 1834, now the old houses were burned down, his plan should be considered for the new buildings, and so to the present moment, when a committee of both houses was appointed to consider the suggestion.

If this committee and the Royal Commission which followed had sat anywhere but in London, I cannot help thinking the result would have been different as regarded Haydon; for if he was to have a chance, the hearing of the case must have been removed from the locality where the prejudice against him was so strong.

The Fine Arts Committee of 1841 examined everybody within their reach who was supposed to know anything, and many who knew nothing, on the subject they were appointed to enquire into. But they refused to send for Haydon, the real proposer of the plan, or to hear one word he had to say. This was the "Elgin Marbles" case over again. Then it was "out of delicacy" to Mr. Payne Knight, whose absurd sophisms on art Haydon had scattered to the four winds of heaven, and rendered him insignificant for the rest of his life, and now it was out of regard for the "constituted authorities" in art, whose maladministration Haydon had brought, by Mr. Ewart's committee, before Parliament, that he was to be punished by another and a more serious exclusion.

I believe myself that Sir Robert Peel, as well as the Academy, from something Sir James Graham once said to me *à propos* of this very committee, was the moving spirit in this matter. Anyhow, the feeling was this: Haydon's success may have been very great at Oxford and in the provinces, but we will show what he is thought of in London. Hence, the Fine Arts Committee in their enquiries ignored Haydon's existence, either as a professional painter or as a theorist and public writer upon art, or as the proposer of the plan of decoration.

This studied slight upon a man of such undoubted claims to be heard wounded him.

It is lucky for this committee, and for the Royal Commission that followed, Haydon died before he had carried out an intention he certainly held, that of writing a "public letter" on the proceedings of both, a kind of second edition of his letter on the connoisseurs and the Elgin Marbles in 1816.

Had he written it, we may depend he would have left something the ineffable nonentities would never have forgotten so long as they lived, and have kept them in memory after death. Luckily for them, they broke his great heart and killed him before he put together his accumulated experiences. I, for one, have always regretted this; for, judging from one or two fragments he has left, the new letter would certainly have been a masterpiece of exposure, refutation, and invective.

There would have been nothing like it on art or in literature since the days of Bentley and Boyle; it is an irreparable loss.

But Haydon subdued his feelings, and went on with what easel-work he had upon hand. Hearing at length the committee held the notion that fresco would be preferable to oil painting for the new houses, and that, in the opinion of the committee, the English oil painters could not "draw well enough to work in fresco," that "fresco" was not their "element," and that "Cornelius and the German painters accustomed to fresco" must be "sent for," he became indignant. "Here," he says, "are the patrons of art in England now asking for the Germans to come over and execute 'great works' in our Houses of Parliament, because, as they allege, the English painters are not equal to the task. Who is to blame if the English painters cannot execute great work? Who was it that left poor Barry to live and die in poverty and want because he painted great works? Who declined to support Reynolds in history, drove Opie into portrait, left Fuseli to live by the print-sellers, and refused to encourage either Hilton or Etty? Who allowed me to be ruined and imprisoned and my school destroyed because I would paint 'great works,' and dared to tell them that great works should be executed for the honour of their country? Who has pressed down the genius of England by buying nothing but small works and foreign 'specimens'? Does any man in his senses believe that the exhibitions of the Royal Academy show what English artists wish to paint? No; they bring out what they are obliged to paint; they bring to market the goods which will sell. And now, because you have degraded the art by narrowing its great calling, you turn round and say, 'Let us call in the Germans.' Shame on you! Shame on you!"

Before a week was over he had pulled down part of his painting-room wall, prepared it, and, trusting to his rapid practice in oil, painted in genuine fresco, without retouching, a magnificent half-length of an archangel. I remember well its ideal and unearthly beauty, for I had to sit, stripped to the waist, as the model, and saw him paint it. The attempt was a complete success, except that it dried lighter than Haydon expected, but this only added to its surprising beauty. The effect was marvellous and highly poetical. The committee heard of it, and, with the meanness of men, came up to see. His painting room, I remember, was crowded for days, and anybody who formerly said that "no Englishmen could paint in fresco" now declared "nothing was so easy." The scorn and contempt with which Haydon listened to their idle gabble can be easily conceived.

As soon as the report of the Fine Arts Committee of 1841 was presented, and it was clear to Haydon's sagacious eye that fresco and not oil painting would, for some reason, be the mode of decoration, and also that Sir Robert Peel would be the next prime minister, and that very shortly, he sat down and addressed a "letter" to Sir Robert Peel (10th August, 1841) on the report of the committee.

This letter is interesting as showing how clearly Haydon understood his subject, how doubtful he was of fresco standing at Westminster if not painted with the greatest precaution, and how necessary for the honour and credit of England, under any circumstances, to exclude foreign artists and confide the work wholly to British painters, and, above all, to decorate on a plan, and make the decorations subordinate to and illustrative of the great principle for which the building is erected.

When the general election of 1841 was over, and Sir Robert Peel secure of his majority, Haydon addressed a second letter to him (20th September, 1841), urging him not to let the opportunity for a grand scheme of decoration pass away, and giving him a broad hint for a cartoon competition, in order to test the allegation that "English artists could not draw."

To Sir Charles Barry, the architect of the new Houses, Haydon wrote later on, urging him to leave space for the fresco decorations. Barry replied (18th December), "Be assured that I am still disposed to afford you every opportunity and facility within my power for carrying out the object you have in view for the glory of British art."

In November, 1841, Sir Robert Peel, as prime minister, obtained the appointment of a royal commission for the purpose "of enquiring whether advantage might not be taken of the rebuilding of the Houses of Parliament for promoting and encouraging the fine arts," and of discovering "in what manner an object of so much importance would be most effectually promoted." This was a curious way to put the case — to inquire if one thing might not conduce to promote something else. Who could doubt that encouragement and commissions must help to improve art? But that should not be the object of a great public work, which ought to spring from a love and admiration for the arts, and a desire to possess fine works by native painters.

Sir Robert Peel's royal commission consisted at first of twenty-two and was subsequently raised to twenty-four commissioners, including statesmen, politicians, men of rank, who had no other proof of their lives but that they were only gentlemen of fortune, *dilettanti*, and men, like Lord Macaulay, and Hallam, and Lord Stanhope, of high literary repute. All professional artists were carefully excluded. The only concession made to the art was to appoint Haydon's pupil, Eastlake, R. A., the secretary, "a very fit man, but timid."

This exclusion of professional men from seats on the commission is remarkable, because the chief advantage of a royal commission over a parliamentary committee is that, while in the latter case the committee is strictly confined to members of one or both houses, and can only get its information by the mere evidence of witnesses, in the case of a royal commission the prime minister can place upon that commission those who are practically acquainted with the matter that has to be considered, and such persons are much more likely to go thoroughly and certainly and entirely into a question than a body of men who have no practical acquaintance with the points under enquiry, however eminent or distinguished in other respects.

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And so it came about that while the leading literary men were put on the commission, the leading artists were excluded.

Professional asperities were to be replaced by high-bred forbearance; in short, it was the famous "committee of taste" revived, and it ended in as bad a failure. For, without any want of loyalty or feeling of disrespect, it may be safely asserted the country got a very bad bargain.

The immediate result was not a little curious. Cornelius, the German painter, suddenly arrived in London from Munich. He was received with extraordinary distinction by the Prince and by Sir Robert Peel. He was taken everywhere, by Sir Robert's request. But he never reached Haydon's studio. This was at least remarkable, for of all men he would come and see, one would think he would come to see the intimate friend and correspondent of his own great friend Rumöhr, to say nothing of Haydon's

> position in the art. But he never came. Haydon began to scent mischief; he had many and various sources of information. In a short time he arrived at the conviction that the Prince was in favor of giving the entire control of the decoration of the Houses to Cornelius, leaving the practical part only to the English artists.

The proposition was finally made by Prince Albert and Sir Robert Peel, to call over Cornelius, Hess, and Overbeck, and to employ them to design the decoration of the Houses of Parliament. The English people were not likely to be pleased with the plan of entrusting this work to these distinguished German artists, since to do so would be an open admission of the inferiority of English art, though, as is not unusual in such cases, subservience to the known wishes of those in authority kept the officials dumb. Who were they, that they should have an opinion in opposition to the wishes of the Prince Consort and the premier?

No such subserviency, however, had ever characterized Haydon. With his usual uncalculating impetuosity in all matters affecting what he considered the true interests of art in England, he wrote one of his eloquent protests in the Times; he yielded so much to prudence, indeed, as to sign an assumed name, but his style was too characteristic to be thus concealed.

The real feeling of the people had found voice, and the project of thus exalting German art by ignoring the English artists was abandoned. The result, however, showed that Haydon was to be punished by being designedly ignored. In this connection Haydon's biographer says:

> He denounced the employment of Germans as unpatriotic and unnecessary, and showed that it was not necessary. And no doubt Haydon was right in the abstract; it was not necessary, and the proposal was unpatriotic for Sir Robert Peel to support and the commissioners to accept.
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> But, for my humble part, I must confess, looking at the result, and since Haydon, the best man in England fitted to superintend the work, was to be excluded, I regret the Germans were not called in. They could not well have done worse; they might have done better; at least it is impossible to believe *they* would have given such a jumble of absurdity as we have got, and they would certainly have cost the country less.
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> Cornelius would have left us something we have not got, something in genuine fresco, and, for the honor of German art, let us hope, something that would have excited higher feelings and nobler thoughts than we have to look at now, but, happily, by all accounts, shall not have to look at many years longer.
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> Thus it was that Haydon began to speak out the truth that was in him. Had he only consented to speak half his thoughts, he might have escaped the censure, and perhaps have obtained the favor of at least one eminent personage. But throughout his life there is certainly this to be said for Haydon—and for my part I honour him for it, he never hesitated to incur censure, even to his own ruin, by rejecting a course at variance with his convictions as to that which was best for the art and the country.
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> For a man who loved approbation so dearly, who strove so passionately to merit it, and to whom censure or neglect was such an intolerable evil, I venture to think he deserves the highest praise for his plain speaking on this occasion. I have as little doubt that the result was quite clear to him. If he helped to shut out the Germans he shut out himself; he shut out the Germans, and he was refused all employment in the decoration of the Houses.

An exhibition of cartoons was called for. In this Haydon unwisely competed, as it was evident he would be ignored. The cartoons by the young students he had influenced were pronounced remarkable, those by the academicians very poor.

> It is impossible, however, to refuse him our sympathy. For had he not good claim, not only to employment, but to the chief employment? The plan was his, he was literally the cause of the thing being done at all, and he had painted a fresco on his own painting-room wall that nothing exhibited could compete with. In spite of what was freely urged at the time, that "Haydon was failing in physical powers," you had only to look at his ruddy cheek and robust figure to see the denial there. He was no

more failing for art than Sir Robert Peel was for politics. No; "his eye was not dim nor his natural force abated;" and therefore I take that excuse at its value.*

In the year 1842 Haydon had painted three large pictures, finished two others, and one cartoon. This besides sketches, correspondence, writing his own memoirs, and writing and delivering fresh lectures in London and the provinces. There is no sign of failing power here. Haste, perhaps, but no loss of power, which only asked freedom from disturbance and pecuniary pressure to come forth with finer effect than at any former period of his life.

Nor is the question here, which painter was most agreeable to the court, though the prejudices of the court deserve to be respected, but which was best for the public interest. Here was the Englishman of established reputation, who had executed the greatest works in oil ever produced by the English school; who had always practised in oil the habits of fresco; whose knowledge of anatomy was unrivalled; whose power of correct drawing, from his study and knowledge of the particular function of each bone, and muscle, and part of the human and animal frame, was not to be surpassed; who had proved the soundness and purity of his taste in art by his defence of the Elgin Marbles against the laughter and abuse of the critics and connoisseurs; who had trained and educated some of the best artists in England; and, not to mention his other services to the art of the country, had painted as fine a genuine fresco as there was to be seen in England.

Was it in the public interest, when a great work of fresco decoration was about to be painted at the public cost, that such a master of his art should be passed over by the authorities? The question was not a personal but a public question.

Haydon was the only painter in England who had thought out this particular subject of the decoration of the Houses of Parliament. He was the only man, I believe, in the country, who thoroughly comprehended what was wanted to be done, and how to do it.

Imperious and impatient of ignorance he might have been, but he was a man of unmatched industry and ability, full of experience, and in the prime of life.

That he was an "uncompromising" man, and an "impracticable" man, and a man "with such extreme opinions that he could not have worked with" this man and that, is nothing but the ordinary excuses of misapplied power and a failing cause. As Dolabella says of Antony's messenger, so it may be said of Sir Robert Peel — this is "an argument that he is plucked when hither he sends so poor a pinion of his wing."

Such excuses were just as applicable to Haydon as they would be to the leade of the opposition in Parliament if, when the people preferred him to office, the sovereign and his minister kept him out. Haydon was always kept in opposition. He never was tried with power.

It is in opposition a man most shows his defects. If in constant and irritating opposition, he is certain — at least I never knew the man who was not — to be guilty of mistakes. "Where there is much activity," Burke says, "there is always aberration." But to insist that a man of original mind, who always considers his own opinion right, is therefore unsuited to a part where he is liable to be irritated by collision with others, is absurd and illogical, for it quite overlooks the wide separation between always thinking you are right and thinking you are always right. An honest man must always think his opinions right, or they would not be his. But it does not follow he is not open to conviction.

Moreover, if Haydon had shown defects, he had also shown extraordinary capacity and vigour; and in his art no one could touch him. Put such a man in office, and he will prove that he has as much discretion as your most cautious mediocrities, more than their share of common sense, and infinitely more knowledge of his own particular business.

But Sir Robert Peel carried his point, plain sense was pushed aside, and Haydon was excluded from all employment in the decoration of the new Houses.

And now comes the fair question, what has the country gained by his exclusion? Have we anything to boast of as the result of Sir Robert Peel's action in this matter? The chief thing the public has gained has been "experience," and very dearly we have paid for it.

After several annual official reports from the Royal Commission of Fine Arts, the public learned, in the eleventh report, that "difficulties had arisen"; the plain fact being, as I have often heard Haydon predict, the frescoes were already showing signs of decay.

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*Haydon was not yet sixty, the age when Milton wrote his "Paradise Lost" and Chaucer his "Canterbury Tales." The intellectual powers of a healthy man of fine imagination and pure life, so far from failing, grow stronger between fifty and seventy-five; and their later works, provided they have peace and competence, will often surpass and seldom fall below those of their early years. Michael Angelo worked until he was ninety; Titian was nearly one hundred when he died; Rubens, seventy; Tintoretto, eighty-two; Claude, eighty-two; Teniers, eighty-four.— Ed.

In their twelfth report (February, 1861) the royal commissioners express their "extreme mortification" at the "failure" of their efforts in fresco, and intimate their intention "to attempt water glass painting" instead.

A few weeks later, on the 11th of March, 1861, the royal commissioners threw up their cards. For eighteen years they had "meddled with everything and muddled all," and now they begged to be allowed to resign their functions.

It was the cheapest thing to let them go, and Sir Robert Peel's commissioners silently effaced themselves from public view, the only official act of their existence which commanded the unqualified approbation of the country. They returned to their respective domestic and other duties, for which, let us hope, they were better fitted than for dealing with matters of art, in which the majority had shown the thorough ignorance of educated men, and their utter insensibility to anything like a grand idea.*

With regard to their fresco and water glass decorations of the House, I hope I am not overstating the case when I say it is admittedly an enormous and costly failure. And this is exactly what I have, in 1845, heard my father predict it would be. "I shall not be alive to see it, but you may; and mark my words, in less than twenty years their frescoes will begin to decay. In fifty years there will be nothing of them left. They talk of their lasting. Good God! what credulity! There is not one of them who knows how to prepare his surface to last, and, except Eastlake and Dyce, there is not a soul among them who can paint a genuine fresco." Are not his words fulfilling themselves?

Yet this one man, who knew where the fault lay and how to remedy it, was designedly excluded by Sir Robert Peel from all control over or share in the work! But if he was not permitted to be the steersman, or even one of the crew, Haydon was at least the Orpheus who sailed with those Argonauts, with this difference, that his visions were always intelligible to himself.

Then, again, as to the general principle and object of the decoration as it stands. It is impossible to discover any leading idea. Except to dispose of the sums of money voted by Parliament, there is no principle represented.

We have Moses, and Blücher, and Nelson, and Montrose on the scaffold, and Argyle on his bed, and Alice Lisle, and the Pilgrim Fathers, and many pretty pictures of academic figures in theatrical costume, that illustrate no principle, are guided by no leading idea, which appeal only to the eye, and that must not be a critical one.

Allowing the works the full merit their friends claim, there is throughout a marked absence of all genuine heroic spirit both in sentiment and execution. No impartial judge can deny that. When a recent Quarterly Reviewer declared the whole thing a gigantic failure, "a monument of our inability to meet what ought, in a nation possessed of our wealth, and means, and culture, to be a common and not at all an extraordinary occasion," he gave expression to a truth that is impressed upon most of us.

But I deny that it was the fault of the artists so much as the fault of the royal commissioners. There were then, as there are now, competent painters equal to great public works. But such men have no chance against the low taste, the want of culture, and the ignorant prejudices in art of our nobility. * * * For my own part, I feel satisfied, from the terms in which I have heard him spoken of in Paris, in Madrid, and by the Germans, that Haydon's reputation as a painter will last as long as there is an artist in Europe; that his reputation as a writer and lecturer on art is unrivalled; and that before another century has come and gone his pictures in England will be thought out in their own language, and he will take that rank in English art which may be denied him now, but to which he must most unquestionably succeed.

Let us now, in conclusion, look fairly at the prospect his life presents. Grant all the errors and imperfections attributed to him—his want of tact and dignity, his intense self-will, his hatred of control, his impatience of ignorance—yet what a balance remains in his favour!

A man of genius and of great resource, with fine poetic imagination and vehement enthusiasm, but essentially active, practical, and shrewd, possessing a profound knowledge of his art and gifted with the spirit of design; a man that any country might be proud to place at the head of her art institutions and employ upon works of public decoration, that he should animate, impel, and enrich the nation by his genius and labour.

And what is his fate in England? He is roughly repressed by that special institution established for the support and protection of the able and eminent in his profession, and repelled from her doors.

He is rejected by the Government, neglected by the nobility, and driven by the credulity and indifference of both to pass the greater part of his life in distracting poverty or imprisonment, drudging and struggling for his daily bread, copying his own works, which others could have done as well, and squandering his fine powers for a bare subsistence, which in the end he fails to make, and dies.

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*A curious and interesting history of this unfortunate royal commission is given by Mr. Redgrave in his "British Painters."

It is a reflection upon the governing classes of that civilized nation where such things are possible and permitted in art, in literature, or in science. When a man who has proved his capacity in either stands before them and asks for employment, that should be found him.

Yet, disprized and neglected as he was by his own nobility and Government, Haydon played a great part in the art of Europe. His discovery of the principles of nature, upon which the school of Phidias worked, and his carrying those principles into practice and instruction, was an enormous benefit to art.

By him the fading historical art of England was for a period arrested. He saved the Elgin Marbles to us; he was the real leader in the foundation of our schools of design; he gave the right direction to the training and education of artist and artisan, however viciously departed from by the authorities since his death; he was the man whose steady action moved Parliament in favor of public employment for our painters; and he advanced the cause of art and design throughout the empire.

I cannot help thinking, when an impartial posterity comes to reckon up the services of those Englishmen who have laboured scientifically to promote the educational value and functions of art in its relation to our national life, Haydon's name will not stand low upon the list, for the light he left behind him will assuredly be lasting.

And thus it was that Haydon lived and died. This is the story of his life. He gave to our common country, to our art, and to our artisans the disinterested labour of a patriotic life, and he left the memory of his death to the indelible disgrace of the Government and nobility of England. (Vol. I, pp. 190–249.)

EXTRACTS FROM HAYDON'S OFFICIAL CORRESPONDENCE.*

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Memorandum (7th November, 1811) addressed to the prime minister, Mr. Perceval on the subject of public encouragement to historical painting and the foundation of schools of design, pointing out that private patronage is unequal to the support of historic art in life size, which is only suitable for public buildings, and begging Mr. Perceval to set aside 4,000 *l.* a year for the decoration of our public offices by historica- paintings; and further calling attention to the fact that there are no schools of design in England; that the Emperor of the French has sanctioned, or is about to sanction, their establishment in France on an extended basis, in which the designer is made to acquire a certain knowledge of form and colour; and earnestly entreating the attention of the prime minister to the subject, for the improvement of English manufactures and the general advantage of art and design in England.

* * * * * * *

May, 1813, memorandum addressed to Lord Mulgrave proposing the decoration of the House of Lords by a series of historical pictures illustrating the principles which the building may be said to represent, and their opposites, by events taken from the history of Europe or the world.

Letter to Lord Castlereagh (no date, 1815) on the subject of the withdrawal of the proposed Waterloo Monument; praying Lord Castlereagh not to abandon the subject of the fine arts, but to take them into his best consideration, and especially to give public encouragement to historical painting; suggesting the decoration of the House of Lords by a series of historical pictures; also urging the establishment of a system of public schools of design for the benefit of the art and the manufactures of the country, the latter being notoriously inferior to the manufactures of France, in consequence of the admirable system of art instruction to the French designers established by the late Emperor Napoleon I, particularly at Lyons; and suggesting that parliamentary enquiry be made into the question, with the view to extend the knowledge of art and design among the people of England, to increase the commercial prosperity of our country, so as to enable her to compete successfully with the foreigners in arts and manufactures, as in science and war.

* * * * * * *

Plan submitted to the directors of the British Gallery to encourage high art by a system of annual premiums for the best picture in every department of art (1816).

Letter to Mr. Canning (5th March, 1818) requesting his influence with Parliament to obtain an order for the architects of the new churches so to arrange the altars that they might be fit for the reception of such pictures as the Government might in future think worthy to be placed there.

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* The record of Haydon's personal experience with the Academy has not been thought sufficiently relevant to the purpose of this Report to require insertion; however, as it is clear, from reference to Haydon in recent English publications, that traditional opposition to Haydon (see page 463) survives his tragic demise, the extracts from his official correspondence which follow are given as fully justifying all that is claimed, as to his efforts to promote art and art education in Great Britain.—Ed. Art Report.

Plan submitted to the Government for encouragement of historical painting (May, 1818) by setting aside 10,000*l.* out of the 1,000,000*l.* voted for the new churches for the painting of altar pieces.

Pamphlet upon the same subject (1818).

Petition to Parliament (1823), presented by Lord Brougham, praying the House to give public employment to English historical painters; pointing out that improvement to manufactures will follow, and suggesting the purchase and presentation of pictures to adorn the altars of our churches and the sides of our public halls; and humbly praying the House to appoint a committee to investigate the subject.

Plan (August, 1823) submitted, by request, to Sir Charles Long, M. P., to adorn the great room of the Admirality with four historical pictures of four leading events illustrating our naval history, with four busts and four portraits of the commanders who distinguished themselves on the occasions represented.

Petition to Parliament (14th June, 1824), presented by Mr. Lambton, M. P., entreating the House to consider the advantages that will accrue to the nation by a generous support of high art and design.

Petition to Parliament (23d February, 1826), presented by Mr. Ridley Colborne, M. P., praying the House to take into its consideration the encouragement of native art, and to set aside a sum, not exceeding 4,000 *l.* a year, but not exclusively for the encouragement of historical painting. Also pointing out that the fine arts have always advanced the commercial and political greatness of a nation.

Plan submitted, by desire of the Duke of Wellington (December, 1828), for adorning the Admiralty, Chelsea Hospital, and the House of Lords with paintings to represent the leading points of our naval and military history, and in the House of Lords four subjects illustrating the best form of government. Between the pictures portraits of our great men—Alfred, Bacon, Blake, Marlborough, Nelson, &c.

Pamphlet upon public encouragement to historical painting (January, 1829).

Memorandum submitted to the Duke of Wellington (February, 1829) for putting aside an annual grant of public money, viz, 4,000 *l.* every two years for six years, then to be renewed every ten years. according to the success or failure of the plan, for the encouragement of historical painting in England; and predicting that without such support historical painting in England "will decay and become extinct." Suggesting that four commissions be given to four of our leading painters for four subjects, civil, naval, military, and sacred, as a trial.

Petition to Parliament, presented by Mr. Agar Ellis, M. P. (June, 1830), showing that historical painting is not encouraged in England by the Royal Academy, the British Gallery, or by private patronage, which is unequal to the effort, and praying the House to take this beautiful department of the art under its protection, or the poverty and degradation, and imprisonment that surrounds its professors will surely lead to the extinction of the art.

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Letter to Lord Grey (December, 1832) on the subject of schools of design, pointing out the reasons of our inferiority in design in manufactures, referring Lord Grey to previous letters to former ministers, and urging Lord Grey to take up the question in a large and comprehensive spirit, and establish schools of design in all the principal towns, with a system of instruction similar to that at Lyons, where every designer in manufacture is compelled to acquire certain proficiency in form, colour, light, and shadow before going into ornamental design.

Petition to the building committee of the new Houses of Parliament (6th March, 1835), presented by Lord Morpeth, praying that spaces be left in the new building for the decoration of the Houses by painting, and urging the committee to consider the vast benefits that may accrue to the arts and manufactures of this country if the opportunity be seized for the public encouragement of historical painting.

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[To Henry Brougham, esq., M P.]

LONDON, 10*th February*, 1828.

MY DEAR SIR: * * * You promised, early this session, to present my petition. When may I hope it will be convenient to do so? You told me many members of the House thought as you did on the subject. All I ask is, bring their sincerity to the test.

Is taste in art not essential to the intellectual condition and moral and material improvement of a great country? If it be, how can it be more effectually generated than by an annual vote of the legislature? *The highest departments of art cannot be adequately fostered by the liberality of individuals alone.*

You asked me once if I thought the people of England would ever have "any taste." I tell you they have it now; they only want more examples before their eyes.

A love of high art neither in Greece nor in Italy *preceded* the genius of the artists or the patronage of the Government, but was the consequence of the development of both.

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[To his grace the Duke of Wellington, &c.]

4 BURWOOD PLACE, *14th October*, 1830.

* * * * * * *

The public establishment and encouragement of high art is essentially requisite to a manufacturing country.

Taste in design can only be generated by excellence in elevated art.

Our Manchester cottons were refused in Italy, at the conclusion of the war, in 1816, because their design was tasteless.

The leading manufacturers were therefore obliged to employ the most eminent artists to make designs, and then the Italians greedily purchased what they had before refused. This is a fact, I can assure your grace, and I submit that it goes far to prove the importance of design to a nation so far advanced as we are.

But if high art be permitted to decay, taste in design will decay with it, and we shall ultimately and inevitably sink beneath the nations of the Continent, not because we are by nature and disposition their inferiors, but because, after having proved ourselves capable, we alone continue to be deprived of the encouragement and public support which Continental nations so liberally afford their professors.

If your grace could only be induced to try the experiment to set apart one or two thousands a year for the encouragement of high art, you would do all that every minister had been entreated to do for the last sixty years, and, by putting the genius of the country to the test, soon set the question at rest forever.

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[From W. Ewart, esq., M. P., 16 Eaton Place, 30th April, 1834.]

SIR: I beg to return my especial thanks to you for the letter and treaties I have had the honour to receive.

The subject* is one too *nationally* important to be lost sight of. More than one member of the House of Commons, besides myself, are interesting themselves in it.

Mr. Lytton Bulwer (as you probably are aware) has a petition to present on the subject of the Royal Academy. I shall endeavour to be in the House when it is presented, and, if necessary, shall support it.

I remain your most obedient servant,

W. EWART.

[In reply to Lord Brougham, on his leaving office, November, 1834.]

MY LORD: * * * I did not imagine you, as lord chancellor, could independently obtain a grant of public money for the encouragement of high art, but I did hope, amidst your thirst and enthusiasm for human knowledge, you would not have forgotten your acknowledged conviction to me in 1823, when you took up the cause and told me that yourself, as well as many other members, were of opinion "something should be done."

My lord, I know your incessant industry, I know your varied and vast occupations, I know, amidst such a multiplicity of passions to be assuaged, of wrongs to be redressed and reforms to be accomplished, it was scarcely to be expected that art could be remembered till more leisure had been obtained. But still, with your remembrance of it, your allusion to it or your influence in its favour might have been occasionally exerted without interrupting your inherent duties.

In 1823, when you honoured me by calling upon me, I showed you a series of designs to illustrate Government, to regulate without cramping the liberty of men. You applauded them, but turned round and said, "Do you think the people of England will ever have any taste?"

Suppose, in answer to your noble eagerness for instructing the people, I had said "Do you think the people of England will ever have any knowledge?" what would have been your reply? "Certainly not, if they are deprived of the means of instruction."

So I say of art: "Certainly not, if the Government of England does not do what other states have done and are now doing to foster art and design and improve the public taste."

The misery of England is that art is considered a mere ornament for dining rooms and drawing rooms, and is not believed capable of moral elevation. The people see no grand series of great works to elevate their minds. The nobility, and all who are educated to direct the state machine, are educated by men brought up at colleges, where there are no professors of painting or sculpture, and consequently cannot, and do not, impress on the minds of their pupils the importance to a country of correct design, of great examples of virtue and heroism, conveyed through the medium of form and colour, which, when done, have improved the manufactures, increased the wealth, and refined the minds of a nation.

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* The grant of public money by Parliament for the encouragement of high art and design.

Aristotle, as your lordship knows, recommends the practice of painting as inducing a love of order and a knowledge of the beautiful.

Ten years ago you admitted the truth of all this to me in conversation; you brought the subject into the House, and, after the most ardent expressions of enthusiasm in itst favour, you dropped it.

Have I not, then, reason to complain, when, after being four years in power, you have neither restored, alluded to, nor in any way attempted to advance that cause which you acknowledge to me, when you were out of office, to be so essential to the moral eminence and manufacturing superiority of our nation?

[To the Duke of Wellington.]

LONDON, *2nd March*, 1835.

MY DEAR DUKE: For seventy years, when complaints have been made of the want of encouragement for historical painting, the answer has been, there is no space and no object fit for the state to interfere and develope the national talent.

By the burning down of the Houses of Parliament there is now both space and object afforded in the rebuilding of the Houses of Lords and Commons.

Permit me to say, if the Houses of Parliament be rebuilt without provision being made for a grand series of pictures to illustrate some national or philosophic subject with reference to our constitution and Government, an opportunity will be lost which cannot be expected to occur again, and which will evidently demonstrate, not the absence of genius in English artists, but the want of desire of those who have the power to give it an opportunity to come forth.

I have the honour, with every expression of my respect, to enclose your grace a copy of a petition which I am desirous of presenting to the building committee on this important subject, and earnestly to entreat your grace to give it your powerful support

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[From W. Ewart, M. P.]

BRIGHTON, *28th September*, 1833.

MY DEAR SIR: You may rely on receiving a copy of the report.* I hope it will satisfy you, though I was somewhat restricted by the committee. All that is said, however, is my own.

It is expected to be out in a few days.

I am, my dear sir, &c.,

W. EWART.

[From W. Ewart, M. P.]

BRIGHTON, *2nd October*, 1836.

MY DEAR SIR: I hope that in the report you will *not* be disappointed.

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The report *is as liberal a one as it was possible for me to draw* under the control of the committee.†

I hope to send you a copy by the end of this week or the beginning of next.

Your most faithful servant,

W. EWART.

[Haydon to Viscount Melbourne, prime minister.]

LONDON, *January* 11, 1837.

MY DEAR LORD: * * * But it is quite in opposition to the principles of your Government to throw a school of design, meaned to be independent for the good of art, into the hands of men notoriously so inimical to high art as they have been proved.

* * * * * * *

But Poulett Thompson has been made a complete tool of. I cautioned him long ago, but to no purpose.

Will you believe it possible that they came to such resolutions as these?

1. That the *figure* is not necessary as a basis.
2. That every one admitted must sign a declaration not to practise as history painter, portrait painter, or landscape painter.

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* Mr. Ewart's committee on arts of design (1836).

† On the recommendation of this committee the first schools of design were established. This initiative action by the Government ultimately resulted in the organization of the science and art department, South Kensington, etc. See official history of this department in Appendix F of this report.—ED. ART REPORT.

Now, my dear lord, need I say more? As a proof that the public are feeling the thing, Hansard has sold more of the "report" than on any other subject, however political.

Praying you to obtain the admission of true artists, not academicians, on the council,

I remain, &c.,

B. R. HAYDON.

[To the Right Honorable Poulett Thompson.]

LONDON, *January* 28, 1837.

MY DEAR SIR: I yesterday visited your Government School of Design. Oh! Mr. Thompson, what an exhibition! *Nine* poor boys drawing paltry patterns—no figures, no beautiful forms! And this is the school of design the Government of Great Britain has founded in its capital! I felt my cheeks crimson. However, persevere till your eyes are opened and the public voice compel you to attend to the truth.

You were kind enough to say to me at our last interview, "Your talents are acknowledged"; but was art understood by you all as well as politics and commerce, I should have been understood by you, and you would have felt convinced that my principle for a school of design for the mechanic was the true one.

But you are all at the mercy of the Royal Academy, and ever will be till *you* have schools of art and design at the universities, and if God spares my life twenty years you shall have them, as you will soon have them in all the great towns.

[From William Ewart, M. P.]

EATON PLACE, *March* 15, 1838.

MY DEAR SIR: I will take care that your indisputable views on the importance of the figure are attended to; indeed, I have already written to the secretary thereupon.

I have also mentioned your liberal offer of a lecture on form as connected with design; I have no doubt that it will be eagerly accepted.*

I am, my dear sir,

WM. EWART.

[To Sir Robert Peel.]

LONDON, *April* 20, 1843.

SIR: The London School of Design is not advancing as it ought. It is the victim of antagonistic principles.

It was founded by the Board of Trade, who imagined that designs for manufactures could be as easily obtained as in other matters to which apprenticeship alone was enough.

The Board of Trade did not know that designers for manufactures, unless they pass through a portion of a great artist's principles, can never acquire the requisite power.

Dr. Bowring was sent to Lyons to ascertain the cause of French excellence. He reported that every designer drew and painted the figure for a period like the great artist, and then, when he had acquired a knowledge of colour, of light and shadow, and of form in a certain degree, he carried these excellencies to ornamental design, and thus added grace to it.

On the other hand, Mr. Dyce was sent out to Germany, and he reported that the Germans began with ornament and concluded with the figure.

Though the Germans as designers for manufactures are inferior to the French, nevertheless, from some occult and unaccountable reason, the German system was approved by our Board of Trade and adopted at the School of Design.

I wrote to Lord Sydenham on the subject, and he sent for me, and, after a long conversation, I convinced him the figure ought to form a portion of the mechanic's education, but I did not convince him it ought to be the commencement. The figure, therefore, was added to the course of instruction prescribed, but not with that steady good-will which made it beneficial.

In the council, I regret to say, there is still more than enough of the mistaken principle upon which the school began. Nevertheless, there does exist a desire for the system of instruction to begin with the figure; but the parties are nearly balanced, and, with Mr. Dyce on one side and Mr. Herbert on the other, a perpetual struggle is going on, to the manifest injury of the national interest.

I wish to do no man an injury. I have no friend I wish provided for, and I certainly have no desire for the appointment myself. All that I seek is the public good, and in my search I feel compelled to say that Mr. Dyce appears to me unfitted for any post of influence in the School of Design. He is by nature an experimentalist. His delight is in the excitement of an experiment, not in the wholesome pleasure of bringing experiment to result. A conclusion is to him a nuisance, because it puts an end to experiment. He perseveres in nothing. He has thrown the school off its balance more than once, and I understand when Lord Lansdowne's chief decorator lately applied for designers there were none fit, and Lord Lansdowne had to send to Munich for six to decorate Bowood.

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* This is in reference to the opposition school of design.— ED.

Considering that the School of Design has been established six or seven years, and much public money expended on it, I think I am entitled to ask, "Is such a result as this creditable or even satisfactory?"

There are at present two parties in the school—the "figure party" and the "ornamental party"—when, in point of fact, neither principle ought to predominate, one being the basis of the other.

The figure should be made the basis, as at Lyons and Edinburgh, by law of council, and for a certain period.

The beginner should be kept distinct from the more advanced; and unless these doctrines be definitely laid down by authority, I predict the ruin of the school and great injury to the art.

[To his grace the Duke of Sutherland, royal commissionor, on the result of the cartoon cotnest, 1843.]

London, *October* 2, 1843.

* * * * * * *

What was the object of the cartoon demand? It was, first, to ascertain if the British school could draw; and, that there might be no mistake, precision of drawing and knowledge of construction were laid down as the indispensable requirements.

For a century foreigners have denied that we could or should ever draw; and every man of patriotism and of any sense hailed this definition of what the royal commission required as the one thing calculated to produce in all competitors the very effects which, if successful, must forever eradicate the unjust suspicion and lower the pretensions of foreigners.

But what happens? There was in Paris a young Englishman,* a pupil of De la Roche, whose genius I know and admire; but this young man executes a cartoon on the principles of his French master and sends it over to England. It has certain merit in its spirit and *chiaro oscuro*, but it is grossly deficient in correctness of drawing, and vastly inferior to the works of the English school.

Nevertheless, to this cartoon, and the work of a pupil from the French school, is awarded one of the highest prizes!

If a pupil from a French school had displayed equal power of drawing to a pupil of the English school, still, considering the calumny to be effaced, preference, on patriotic principles, ought to have been given to the purely English pupil.

If the French pupil displayed superior drawing to that of any English competitor, no feeling of national love ought then to have interfered with voting him the highest prize.

But when the French pupil can be proved, and with as much truth as a mathematical demonstration, to be decidedly inferior in those excellencies which were the great desiderata of the nation to elicit, then, I maintain, ignorance of what the commission required must be the excuse, or a tendency to foreign schools inconsistent with the duty of a royal English commission, and in either case "prejudice or incompetence" must be applied to the decision.

A fatal blow has been given to the national honour in art, and when there were the most justifiable reasons for bestowing on the British competitors the reward they had fairly won, and which would have removed forever the stigma cast by foreigners on British art.

But what has been the result? Why, your grace, the *ateliers* of Paris have rung with acclamations that the pupil of De la Roche has beaten the congregated talent of Great Britain; and De la Roche himself, immediately on the decision being made known, wrote to Eastlake, congratulating himself that his pupil had won the first prize.†

I declare, since the Guerrière struck her flag I have never felt so mortified.

Is it nothing to see the genius of Great Britain so degraded and insulted, as if the moral greatness of a country in art was a bagatelle like a melodrama, which may be hissed or applauded as the whim may be?

I care nothing for my own personal disappointment at being wholly set aside; but I feel deeply that after having devoted forty years to rouse up the state and the nation to regard art as a matter of national concern, and when the very thing I have laboured and suffered for so long is realized, viz, "state employment," the whole thing is rendered nugatory by such a thoughtless act as this, the effect of which no one can foresee in art or essence.

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* Mr. Armytage, R. A.—Ed.

† Mr. Armytage did not win the first prize, but simply headed the list of first prize men, whose names were given in alphabetical order.—Ed.

It is absurd to deny the truth of my statement that I have done this thing. My enemies affirm it is my "egotism." My egotism! It was my perception.

I was the first who brought the neglected condition of high art before the notice of Parliament in 1820. Lord Brougham, Lord Dover, Lord Colborne, Lord Morpeth, all laid repeated petitions from me before the House.

I laid before successive ministers, from 1812 downwards, and all over the country I laid before the people, plans for decorating the old Houses of Parliament. When the old Houses were burned down, I sent a petition to the building committee, by vote of the House, to which I had no reply, although the suggestions it contained were subsequently acted on.

When at length the committee was appointed to consider the question of decorating the new Houses, and evidence was taken before the committee, I, the original inventor, was never examined.

Sir Robert Peel says that my pupil Eastlake, the secretary to the commission, never "puts himself forward," to which I reply, he has never been "knocked backwards," and that makes all the difference.

In fact, your grace, it appears to me that certain persons, instead of feeling pleased with me for having sacrificed my personal interests in art to attain a national object, are nettled and annoyed at my having done so with success.

My great crime seems to be that I had sagacity to foresee what was wanted, and to tablish the principle without their assistance.

Your grace speaks of my having obtained an "isolated reputation." True, but to whom is it owing? To those who in early life struck me down without cause of offence, and, while I was stunned, flung my body

"In alto mar'
Senza governo,"

in hopes I should sink and be heard of no more! But I had a principle of vitality that one blow did not extinguish. I revived and floated, and was cheered for my energy, and now what ought to have been a matter of praise is made a matter of reproach.

I refuted Payne Knight on the Elgin Marble question, and that brought the connoisseurs on my back.

I brought the Royal Academy before a committee of the House of Commons, after years of struggling, and for so doing the members of the Academy have been and will be my enemies for life.

And your grace will pardon me for saying that I do not think the nobility were quite pleased with me for stating, at Oxford, that professors of art ought to be established, so that the common principles of art might be explained to our future statesmen. The vice-chancellor and the heads of colleges cheered me, but I am not sure that I was not considered by the aristocracy as disrespectful.

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I am now hard at work on "Alexander Killing a Lion," as the only subject likely to make me bear up under a cloud of mental tortures which make me wonder my faculties remain clear.

I believe I am meant, as a human being, to try the experiment how much a human brain can bear without insanity, or a human constitution without death.

I am ever your grace's most grateful servant,

B. R. HAYDON.

MR. SPARKES' CRITICISM IN 1874 ON KENSINGTON METHODS OF ART INSTRUCTION.

The following words, with which Mr. Sparkes, (then head master of Lambeth School of Art and of the art department of Dulwich College,) closed the paper, describing the new ceramic industries of the Doulton Pottery, at Lambeth, read by him before the Society of Arts in London in 1874, contain his outspoken criticisms of the erroneous methods of art instruction then promulgated by the Government authorities of South Kensington, to which reference has already been made.

It will be observed that this successful teacher of industrial art, and practical inventor of new art industries, has as firm faith as had Haydon, in the art capacities of English men and women, and that he also maintains, as strenuously as did Haydon, that, to be able to draw correctly the nude human figure, is the only sound basis for any thorough practical knowledge of art.

All this is as relevant to American as to English readers.

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There is cleverness enough in England; there is exquisite taste and endless invention in English men and English women; there is high aim and steady application to make these gifts useful to themselves, their nation; but they lack education.

The South Kensington Art School system has failed to develope the splendid resources of this country's artistic minded people.

It will fail to the end of the chapter so long as the conception of a theoretical art school is made at South Kensington, and all schools, whether they are in Lambeth or Oxford, in Glasgow or Cheltenham, in Limerick or Edinburgh, are forced to fit that conception, or pay for it in the shape of short subsidies, adverse reports, and the many little signs of having fallen out of favor with the authorities.

What a small school in a Lambeth Lane has done under all kinds of adverse circumstances surely could be done, in a different form, no doubt, by every school in the country, and would be done if masters and managers had the self-dependence that would allow them to say they would have no regard for a South Kensington regulation if it went clearly against the best interests of their school, a self-dependence that would lead them to consider first the welfare of their students and the demands of local manufactures, and last of all whether the students were to be worked down to the South Kensington standard, on which it grants its "payments on results."

It is unfortunately the case that the manufactures and the art school are, in nearly every case I know of, antagonists. South Kensington does not take account of manufactures.

The aim of too many art masters, for whom every excuse is to be made, is to work their students to the South Kensington standard, for payments on results; that done, all is well. They get a handsome subsidy, and a congratulatory report from headquarters. But what have the students got, and how is the manufacturer's demand for artistic help met?

The secret of this failure to meet the wants of the day lies in a nutshell. All great schools of ornamental art have either grown up side by side with great high art schools in painting, sculpture, or architecture, or they have been actually produced by the active life of one or all of these great arts. The study of the human figure is the only basis on which a truly great school of art can ever rest. The greater includes the less. The training in many arts that the figure painter goes through produces at the same time the designer of ornament. He has but to change his practice; his principles are common to both sections of art.

A law so universally recognized in all European states where art is cultivated is unknown at South Kensington. I scarcely expect to be believed when I say that of the ten great gold medals offered to the schools two are for still life painting, not one for drawing from the life; or that if an art school student should happen to take a medal in the Royal Academy, he may not compete for any figure prize at South Kensington.

South Kensington never produced a figure designer yet.

I have heard it said in this room that it had never produced an ornamental designer.

Then what is this great institution doing? It is "paying on results," provided they are not too good.

Until this state of things is changed we shall find French modellers giving the work of the largest Staffordshire potters a European fame; French modellers making the works of our great silversmith and electrotypist; Belgian stone carvers cutting Romanism into Protestant reredos; and Germans whose name is "legion," and whose motto is *ubique*, filling our drawing offices all over the country.

These things should not be. They need not be. Our English hands are as skilful, our heads as clear, our thoughts as practical, our lives as high as any other people who fill our best paid artistic offices in our largest manufacturing houses.

There is no other reason for their presence than this: we are uneducated; we have thoughts, but are dumb, and art language has not been taught us. The proof lies before you. Not one of those students who has done the least thing on that table, covered as it is with objects of endless originality and invention, but has been brought up or is now being brought up to draw the figure.

The art school is necessary; the study of the figure is necessary; hard work on the part of masters and student is necessary; but these receive the full reward for their labour when the manufacturer takes possession, so to speak, of the power that has been educated for him when he comes to a school and asks, as he has a perfect right to ask, for trained minds and skilful hands who will enter into his plans and take an unselfish interest in his efforts to beautify his wares for the sake of the art that both master and student should love.

And happy the school if it can find a manufacturer who is willing to pay the artist liberally for his graceful thoughts, larged minded enough to acknowledge the influence the work of the artist has had on his productions, and generous in proclaiming the manner and gifts of his workmen.

I say happy are the members of that school who can see the practical end of that study opened to them by the appreciative encouragement of the local manufacturer. I too am happy in thus publicly recognizing the debt we owe, masters and students alike of Lambeth School of Art, to Mr. Henry Doulton (From Mr. Sparkes' paper, pp. 28-31.)

APPENDIX B.

PAPERS RELATING TO THE ORIGIN, DEVELOPMENT, AND PURPOSE OF INDUSTRIAL ART EDUCATION:

I.—Extracts from Circular "No. 2, 1874," "Drawing in Public Schools."
II.—Letter of Hon. Andrew D. White, LL. D., president Cornell University.
III.—Extracts from the address delivered to the legislature of Pennsylvania February 5, 1877, by Professor Walter Smith, State Art Director of Massachusetts, in advocacy of the claims of the Pennsylvania Museum and School of Industrial Art to State support.

THE HISTORY AND PURPOSES OF INDUSTRIAL ART EDUCATION, BY I. EDWARDS CLARKE.

I.—INTRODUCTION.

As a concise statement of the development of the movement for definite instruction in industrial art, as well on the continent of Europe, as in Great Britain and in Massachusetts, is given in the opening pages of the pamphlet on drawing issued by the United States Bureau of Education as "Circular No. 2, 1874," and as this little pamphlet was itself a factor in the development of this movement in the United States, by reason of which some slight historical interest may attach to it, such pages of this circular (long out of print) as are given to an historical account, or are occupied with the plea for the adoption of the new study as a part of the required courses in the public schools, together with a summary of the art training schools and public art galleries existing in the United States in 1874, are here inserted.

The following letter by the Commissioner of Education states his purpose in publishing the circular:

Department of the Interior,
Bureau of Education,
Washington, D. C., August 4, 1874.

Sir: The introduction of the study of drawing into the regular course of studies in the public schools has, especially since its adoption by the State of Massachusetts, attracted the attention of educators. From its relation to technical training and to manufactures, and on account of its practical value to every child, I have thought it important that the means of forming an intelligent judgment in regard to the wisdom and feasibility of its introduction into the schools should be furnished to school officials.

With this view, and because I was prevented by want of space from giving to this subject in my annual report as full a consideration as seems desirable, I have had prepared by I. Edwards Clarke, A. M., of this Bureau, a paper setting forth in brief the views and actions of European nations in securing for their pupils generally a knowledge of drawing. The estimate placed by these nations upon such knowledge of drawing and its direct influence upon the manufactures of a country are shown.

The methods adopted by Massachusetts in introducing the study of drawing in all public schools and in providing technical training for older citizens are stated at length, in order that the citizens of other States may understand the experiment there being tried, which thus far seems a success.

As full a statement as practicable is given of all the institutions in the United States which afford training in industrial, technical, and high art; also a list of public art museums and galleries.

An effort has been made to state the reasons why a general knowledge of drawing is desirable and to show, from the experience of other countries, that it is practicable; and also to set forth clearly the present state of art training in this country, with its facilities and deficiencies.

Believing that the information contained in this paper will be found of value to educators, I respectfully recommend its publication as a circular of information.

Very respectfully, your obedient servant,

JOHN EATON,
Commissioner.

Hon. C. Delano,
Secretary of the Interior.

THE RELATION OF ART TO EDUCATION

In the report of the United States Commissioner of Education for 1870 an attempt was made to collect, from those best qualified to judge, evidence as to the influence of such knowledge as can be acquired by the pupils in the public schools of the country upon their value as workmen in every kind of productive industry—as to whether such knowledge tended to make better workmen, to secure better products as the result of their labor, to procure for the laborers themselves better wages, and to advance in all respects their position.

The replies to the questions addressed to workmen, employers, and competent observers are full of interest in themselves and significant in the almost unanimous expression of the opinion that every advance in learning gives corresponding advantage to the laborer, the testimony being that a mere knowledge of the rudiments adds 25 per cent. to the earning capacity of the individual.

The establishment of such a fact is at once ample justification, in an economical point of view, for the maintaining by every community of free public schools for the instruction of every child, as is freely conceded by most communities in the United States.

EDUCATION IN PUBLIC SCHOOLS INADEQUATE—CHANGES DEMANDED.

In the rapidly changing circumstances of the present age, arising in part from increasing facilities for intercommunication between the nations, the competition between the producers of the world grows ever more intense, and demands watchfulness and energy on the part of every country unless it is willing to fall behind in progress and in power. In addition to this universal fact, a new complication has arisen, owing to the abandonment of the old system of apprenticeship, by which young persons were trained to become skilful workmen in the various employments and trades, and from the bitter opposition of trades unions to the training of youth in their various occupations, so that it has become almost impossible for a parent to procure for his children such industrial training as will make them skilful artisans.*

From these and other causes dissatisfaction has arisen with the present system of common school education, just as in superior education there arose a demand for training in the natural sciences, which has resulted in the great schools of science which to-day supplement the colleges and number their students by thousands.

That system of public education which fails to give to its pupils increased ability to perform the duties of life is self condemned in so far as it so fails. In consequence of the difficulties in the way of parents securing for their children training in remunerative labor, it is felt that the public schools must give instruction that will fit the children for work; that something more and other than the present training is now necessary.

With changing conditions, the forms of education must change; and what is best for one age or country may be very far from meeting the needs of another. While competition in all except the simplest forms of manual labor has been so extended as to bring the productions of the most distant regions and the manufactures of remote neighborhoods face to face, the new discoveries in science, with their varying applications to industrial art, and the manifold inventions of new methods in every department of industry, demand increased skill in the laborer, under penalty of utter failure. The best made goods and the cheapest products of equal quality *command* the markets of the world.

It is plain that in this country the pressure of this competition must increase and that any wise plan of free public education must take into account, in training the future citizens of the country, the circumstances that are to surround them.

Special schools of training for special professions and industries will doubtless be provided as the need arises, as they have been in the past, and with that question we are not now dealing; but the great bulk of the population is to be trained for usefulness in the public schools of the country, and the obvious duty of those in whose charge these schools are placed is to devise a plan by which, during the few years of average attendance, the pupils may be so trained as to be best prepared for the duties of life. It is found that merely to read, to write, and to cipher does not do this. Indispensable as this preliminary training is to the acquisition of other knowledge, something more is requisite, if, as a manufacturing and commercial people, we are to hold our own among the nations.

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* "Since apprenticeship has virtually ceased, through the subdivision of labor, it is doubly necessary that the public schools should give the elements, scientific and artistic, which form the basis of a technical education. And they should do this without diminishing the literary culture they now impart. Only by such an enlargement of the common school curriculum can the great body of laborers secure the education so essential to their welfare and be kept from degenerating into mere machines for doing a limited variety of work." (Technical Education, p. 115.)

INDUSTRIAL RELATIONS OF ART.

In addition to the increased competition arising from steam carriage, new and cheaper methods of manufacture, and increased productiveness, another element of value has rapidly pervaded all manufactures, an element in which the United States has been and is wofully deficient—the art element. The element of beauty is found to have pecuniary as well as æsthetic value. The training of the hand and of the eye which is given by drawing is found to be of the greatest advantage to the worker in nearly every branch of industry. Whatever trade may be chosen, knowledge of drawing is an advantage and in many occupations is rapidly becoming indispensable.

From a recent work* I take the following paragraphs, setting forth some reasons why it is desirable that drawing should be taught in the public schools. This little book is largely occupied with extracts from the official reports made under the direction of foreign governments upon the subject of teaching drawing and giving special artistic training as generally as possible. It is clear that the subject is regarded by these governments as of great and pressing importance.

"DRAWING A PART OF POPULAR EDUCATION.—This harmony between education and the demands of the age also requires that drawing should hold a conspicuous place in popular education. Both for the peculiar culture it imparts and for its practical uses, it should be taught in every public school." (Page 18.)

"Almost every thing that is well made now is made from a drawing. In the construction of buildings, ships, machinery, bridges, fortifications, nothing is done without drawings. It is not enough that there be draughtsmen to make the drawings: the workmen who are to construct the objects required should be able, without help, to interpret the drawings given for their guidance. This they cannot do without instruction that acquaints them with the principles on which the drawings are made and so trains the imagination as to enable it to form from the given lines a vivid mental picture of the object required. The workman who lacks this knowledge and this ability, as it is probable that nineteen-twentieths of American artisans now do, must work under the constant supervision of another, doing less and inferior work and receiving inferior wages. But it is also essential that the workman himself be able to make at least a rude working drawing whenever, as frequently happens, an emergency requires it." (Page 19.)

"It may be accepted as a general truth, the more of an artist the better the artisan, for the work will ever tell of the workman. Hence it is of the utmost importance that instruction in drawing should go far beyond exercises in mere copying; that the principles of good design should be thoroughly taught; and that the pupils, from an early age, should be systematically trained in the pleasant and intellectually stimulating production of original designs." (Page 21.)

"Much precious time has already been irretrievably lost; and for a generation to come American laborers must feel the evil consequences. In a matter which depends upon the education of the whole people there must always be patient waiting for results. Nothing can be achieved at a bound.

"While so little has been done for industrial education in America, so much has been done, and is now doing, in other countries, that it must be many years, even with the best possible effort, before American farmers, manufacturers, and artisans, as a body, can equal the skill of many of their foreign competitors." (Page 25.)

"Since, then, skilled labor is the only sure foundation for prosperous manufactures and since the artisan class is increasing and must for the reasons given continue to increase, in relative numbers and importance, much more rapidly than the whole population, the proper education of this class becomes with each succeeding year a matter of more vital consequence." (Page 29.)

"Different European governments have been for a series of years making earnest, systematic efforts—and perhaps nothing so engrosses their attention now—for the technical education of workmen, beginning it in primary schools and continuing it through evening schools, Sunday schools, apprentice schools, schools of arts and trades, popular lectures, and museums, with its culmination in great technical universities. To-day it is with educated, skilled labor—ever the cheapest as it is the best labor—that Europe proposes to meet the world in friendly contest for industrial supremacy. Let America take note that it is the educated, skilled labor of Europe, and not pauper labor, as so many believe, which she has good reason to fear, and against which she can defend herself only by educating her workmen equally well." (Page 30.)

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* "Technical education; what it is, and what American public schools should teach. An essay based on an examination of the methods and results of technical education in Europe, as shown by official reports." By Charles B. Stetson. Boston, Jas. R. Osgood & Co. Pp. 284.

OUR PUBLIC SCHOOL SYSTEM FAVORABLE TO PRELIMINARY ART TRAINING.

While the United States lack many things that give to the nations of Europe great advantage in art culture, they possess on the other hand, in their system of free public schools, admirable facilities for the speedy, general, and efficient introduction of any desirable system of training. If it is desirable that drawing shall be taught in all the public schools, it must be done by the present teachers themselves. Walter Smith, who is an admitted authority on this subject, says decidedly: "There can be no separate teachers of drawing as a separate subject any more than of writing or arithmetic as separate subjects; but the general teachers themselves must learn and teach elementary drawing to the children in the same way that they learn and teach other subjects. That is how the difficulty has been met in other countries, and it is the only way possible of meeting it here." Recurring to this subject again, he objects to the employment of special teachers to teach the school children drawing as an "unmitigated evil." The children exaggerate the difficulty of learning a study "which is so difficult that their own teachers cannot learn it." "When a special teacher is employed, it should be as a superintendent, to give instruction in drawing to the regular teachers, and not as a direct teacher of children in the public schools." As to the difficulty of acquiring it, "whoever," says a competent authority, "can learn to write can learn to draw;" and it has been shown that the teachers of the public schools are very readily qualified to teach the first lessons in drawing. This training is of value to all the children, and offers to girls as well as boys opportunity for useful and remunerative occupation, for drawing in the public schools is not to be taught as a mere "accomplishment." The end sought is not to enable the scholar to draw a pretty picture, but to so train the hand and eye that he may be better fitted to become a bread winner.

It seems to be generally conceded that the rudiments of drawing can be learned by the child at a very early age and by any child of ordinary capacity. Mr. Walter Smith declares that "it was demonstrated by fair experiment in England in 1852 that about 100 per cent. of school children could be taught to draw well." M. Delahaye, director of the professional school at Batignolles, in his evidence before the French commission, says, on this point, "Great importance is attached to the teaching of drawing, so much so that the boys of seven years old commence to learn drawing at the same time that they begin to learn to write." As to the importance of the study, the French imperial commission, in their summary of the inquiry on professional education, say: "Among all the branches of instruction which, in different degrees, from the highest to the lowest grade, can contribute to the technical education of either sex, *drawing, in all its forms and applications, has been almost unanimously regarded as the one which it is most important to make common.*" (Technical Education, page 208.)

EFFORTS OF EUROPEAN GOVERNMENTS TO DEVELOP PRELIMINARY ART-TRAINING.

In Great Britain and in the leading countries of the continent, the governments are making strenuous efforts to train their citizens in all those kinds of knowledge which will make them more skilful artisans and add to the value of their productions. The contests between nations have become largely industrial, and, while the commerce and trade of the world are the prize for which they contend, the great international industrial exhibitions are the arenas in which they measure their progress and note their deficiencies. It may be worth our while to observe the methods by which they seek to remedy these deficiencies and to judge of their value by recorded results.

The effect of the first World's Fair, held at Hyde Park in 1851, under the patronage of Prince Albert, was to satisfy the English manufacturers and people that, in all that related to the application of art, of beauty, to manufactures, they were completely distanced; only one nation, the United States, among the civilized nations being below England in this respect. On this subject, Professor Ware, professor of architecture in the Boston Institute of Technology, bears the following testimony, given in the papers on drawing, published by the State board of Massachusetts in 1870:

"At the Universal Exhibition of 1851, England found herself, by general consent, almost at the bottom of the list, among all the countries of the world, in respect of her art manufactures. Only the United States, of the great nations, stood below her. The first result of this discovery was the establishment of schools of art in every large town. At the Paris Exposition of 1867, England stood among the foremost, and in some branches of manufacture distanced the most artistic nations. It was the schools of art and the great collection of works of industrial art at the South Kensington Museum that accomplished this result. The United States still held her place at the foot of the column."

In England, the moment that this deficiency was realized, the most energetic steps were taken to remedy it, and so wisely taken, that the exhibition of 1862 showed such wonderful improvement that a French commission was at once sent over to find out how it had been done; and the city of Paris, upon the report of the commission, began at once to reorganize the municipal art schools by adopting many of the features of the South Kensington Museum and training school for art masters.*

The French imperial commission in 1865, in their report, after proposing oral lectures for the instruction of apprentices and workingmen, say, "that drawing, with all its applications to the different industrial arts, should be considered as the *principal* means to be employed in technical instruction." Referring to the fact that drawing has been heretofore so generally taught in France, they attribute to this the superiority of a large portion of the manufactures of the country. They thus describe the efforts made by the English Government:

"The Universal Exhibition of 1855, and especially that of London in 1862, have clearly shown the results which England has already obtained from the immense efforts—among others the establishment of the splendid museum at Kensington—she has made, ever since 1852, to deprive France of that superiority in the works of industrial art which the first exhibition of 1852 has proved to be indisputable. Soon after this exhibition, the most competent judges in England, far from refusing to acknowledge the pre-eminence of our artists over theirs, publicly proclaimed it; and, with the promptitude and active energy peculiar to their nation, they set about diffusing through all classes of society a taste for drawing and the arts, not only among workingmen and artists, but also among the general public. * * *

"Everybody knows the magnificent Art Museum at South Kensington, for the founding of which the science and art department has collected from all quarters masterpieces of every kind, at a total expense to the state of not less than a million pounds sterling since 1852. Besides this outlay for first establishment, the art department has a yearly grant of eighty thousand pounds sterling.

"By the extent of the resources placed at the disposal of this special and new department, created for the purpose of enabling English industry to compete with ours, an opinion may be formed of the importance rightly attributed in England to the participation of the art of design in all industrial productions. * * *

"England is not the only rival of French industry which has recognized its superiority with regard to works which require the aid of art and taste. Germany, moved by the same sentiment, has organized, since 1852, at less cost, but perhaps with as much success, drawing schools of different degrees. In all the practical schools and in the polytechnic institutions, the teaching of drawing holds a prominent place." (Technical Education, pp. 196, 198.)

They also report upon the condition of technical education on the continent. They find that drawing is generally taught in Germany, Switzerland, Austria, Bavaria, and Würtemberg. As showing the extraordinary attention given to drawing in this small kingdom, they remark:

"Drawing also forms part of the instruction given in the normal school for primary teachers, so that they may be able hereafter to teach their pupils the first elements.

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* "What is now being done in European countries to advance the interests of industry, by elevating the taste and skill of workmen, must necessarily be a matter of much interest to us just now, when we are trying to bring our workmen up to the same level. In many parts of Germany, instruction in industrial art in night classes is gratuitous, as it is here; and almost every important village, even, has classes. In France, the municipal schools are not all of them free, though a few are; and the immediate money value of art power keeps the schools always crowded with students.

"Perhaps the most important retrospect with regard to French art education is that which reviews the effects upon them of the English International Exhibition of 1862. The enormous strides which art education had made in England since the previous great exhibition in 1851, and which was reflected in every object of industrial art displayed in the exhibition of 1862, set the sensitive French manufacturers at work inquiring the cause, fearful that their own industrial art supremacy was endangered. A commission, which visited England and examined into the subject with characteristic sagacity, soon discovered the cause of improvement, and paid special attention to the administration of the South Kensington Museum and its training school for art masters.

"The city of Paris, always ready to advance art, appointed a commission in 1863 to examine and draw up a scheme for reorganizing the municipal art schools and suggest some plan by which the whole system of instruction could be improved. The report of this commission contained, among other details, the following recommendations:

"'The holding of annual examinations for granting diplomas to male and female professors of drawing, and to whom alone the city schools should be intrusted.

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"Drawing to be made obligatory in all the public schools, whether for boys or girls.' ("Art Education, Scholastic and Industrial," pages 310, 311.)

"Thus there have been established in the kingdom of Würtemberg more than four hundred drawing schools; and this organization, which does not date back more than ten years, has already led to very decided improvements in the manufactures of the country." (Technical Education, p. 207.)

SPEECH OF MR. COLE, GIVING THE HISTORY OF THE ORIGIN OF THE SOUTH KENSINGTON MUSEUM.

While the notes already given show the immediate effects of the English efforts to make up for the deficiencies in art manufactures and present a view of the activity in the European countries in relation to technical education, especially showing the importance they give to the teaching of drawing to children, the following extracts from a speech recently delivered at the annaul meeting of the Henley School of Arts, "On the origin and work of the Department of Science and Art and on the future of the South Kensington Museum," by Mr. Cole, who has been in charge of the museum from its foundation, furnish a brief history of the origin, growth, and present state of the system of art education in Great Britain by the person best qualified to speak upon the topic. I regret that want of space prevents my giving the whole of this admirable statement:

"After congratulating the art students of Henley, whose school had the proud distinction of ranking fourth in merit in competition with 122 schools of art in the United Kingdom, he remarked that this eminent position was due to their good works, produced by means of a comprehensive and national system of science and art applied to productive industry, the establishment of which the nation owed to the wise foresight of the late Prince Consort. That system provided for the instruction in science and art of all classes of people, offering to all different steps of instruction by means of elementary and special schools, the circulation of examples, and public museums forming an essential part of the whole. The system, although allied with state-aid, was a purely voluntary one. It had existed for twenty years; had taken root in the country and in our colonies; and was imitated in Europe and in the United States. The demand of the people for this instruction in science and art had increased annually until it now reached the cost of about a quarter of a million a year. And this increase, as Mr. Lowe told the House of Commons before he was chancellor of the exchequer [a laugh], was 'the greeat merit of it.' * * * In 1847 there were only twenty local art schools, most of them oppressed with debt and difficulties. There was no elementary drawing taught in schools for the poor and no public attempts were made at scientific instruction. There was no training school for teachers in either art or science, and the total number of pupils in all the art schools did not exceed 5,000. There were no museums of an industrial character. The great exhibition came in 1851.

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The exhibition made Prince Albert alive to the urgent necessity in his adopted country for better technical instruction. At the close of the exhibition he persuaded Lord John Russell, the prime minister, to authorize an attempt to reform the schools of design, and in 1852 Earl Granville (the then vice-president of the board of trade) invited him (Mr. Cole) to try for one year what he could do with those schools. In a month or so Lord Derby came into office and Prince Albert enlisted his sympathies. One of the first recommendations which he (Mr. Cole) made to his immediate chief, Mr. Henley, was that the artisans of the country should be offered help in learning geometrical drawing. Adam Smith had made the same suggestion one hundred years before, but it had never been acted upon. So little was the subject understood that Mr. Porter, the eminent statistician, then secretary of the board of trade, opposed the advice. He did not think it the duty of the state to help carpenters to learn geometrical drawing. Mr. Henley decided to the contrary, and now there were thousands of artisans who had to thank Mr. Henley for his sagacity. [Cheers.] * * *

"South Kensington became the centre of science and art instruction throughout the United Kingdom, and it would interest the meeting if he contrasted the working of the department of 1852 with that now going on. In 1852 there were only 20 art schools, with 5,000 students, paying £2,600 in fees; now there are 122 schools, with 22,800 students, paying £24,800 a year in fees. * * *

"There was then no teaching in schools for the poor; now 194,500 children were taught drawing. There were then no night classes for artisans; now there were 538 classes, with 17,200 students. * * *

"In 1872 the South Kensington Museum was visited by upwards of 1,156,000 persons; its art library was used by 19,750 students, and its educational library by 15,360 persons—clergymen, teachers, and others interested in elementary education coming from all parts of the country to consult it. [Cheers.] The museum had circulated, without accident, through local exhibitions, upwards of 5,400 paintings, objects, diagrams, &c., which were visited by more than 604,000 persons. It has lent to local schools of art for study upwards of 1,300 objects and 2,100 books, prints, &c., relating to fine arts. * * *

THE USES OF MUSEUMS.

"People were still apt to look at museums as mere collections of 'things rare and curious'; things for learned people only, for rich people only, for *dilettanti* only. The Prince Consort and his followers looked at them from a different point of view: the point of view of science and art applied to productive industry. What did the architect do who wanted to learn his profession? He looked at buildings. What did Flaxman do when he applied himself to pottery? He studied Greek pottery. What did Herbert Minton do to enable his manufactory to compete successfully with Sévres? He collected and studied the masterpieces of Sévres. Why was Mr. Phillips, the jeweler, trusted to set jewels with good taste? Because he studied the ancient and mediæval models What gave Pugin his reputation for Gothic metal work but his study of mediæval models? What had created a trade in majolica in this country but the Soulages collection? What had given the Craces, and Jacksons, and Grahams, and Gillows, and Hollands their reputation for furniture, but their knowledge of ancient examples? It was simply savage ignorance and priggish pedantry not to recognize the absolute necessity for examples of art easily consultable by the public who were consumers, by the manufacturers who were producers, and by artists and artisans who were students. [Hear! hear!] Where were they to consult them, if not in public museums? Why was the Frenchman more apt at industrial art than the Englishman? Because for a century he had his free museums in Paris and in every other large town. [Hear! hear!] And public museums were necessary for science as well as art. Collections of diagrams, of educational apparatus, and of specimens of natural history were indispensable to the managers of schools and teachers. Where was there any collection except in the South Kensington Museum? Why did the admiralty have a museum of the models of ships? Would mechanical science be in its present state if our engineers could not consult the example of their predecessors? The fact was that, if museums were not educational, they were of very limited value.

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FACILITIES FOR STUDENTS AT SOUTH KENSINTON MUSEUM.

"The advantages possessed by the South Kensington Museum were that it was open on three days of the week until 10 o'clock at night. The student could consult the art library and educational library by showing his school ticket or he might get admission for a week for 6*d*. He could draw any object he saw; he could eat what he pleased; he found every object labeled, and was told what the nation had paid for it. He found chairs and benches in plenty to sit upon and he could wash his hands if he wanted to do so. He found the lighting perfect; everywhere he could see appropriate, new, and unobtrusive decorations.

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"The buildings were cool in summer and of equal warmth in winter. He could breathe freely and get no headache. He could look at the jewelry and the priceless gems lent by the Duke of Marlborough and the Duke of Devonshire and Mr. Beresford-Hope, without disturbing or boring a very learned keeper. The spirit of the place had always sought to attract the public, its paymasters, to come as often as possible, and to give them a hearty welcome."

THE ENGLISH SYSTEM OF ART EDUCATION.

In addition to the account of the working of the South Kensington Museum and schools, given by Mr. Cole, the following brief statement of the methods of the English system of art education will be found of interest:

"In England the same stages of study are common to both the national training school and the local schools of art; and from the fact that the masters of the provincial schools are all trained and examined and receive their diplomas upon the same course as they afterward give instruction to their pupils in, only of a much more advanced grade, there is a general similarity in the works of all the schools and harmony in the national system. This systematizing of art study is made more certain by the annual examinations of the schools in every grade of study, with the same tests for each grade in every school throughout the country; and this unification extends even to holding the annual examinations at the same hour in all the schools of the United Kingdom. The building up of this system has taken many years to accomplish; the schools of design dating from 1836, when the Government established the head school at Somerset House in London and several provincial schools.

The distinct features, however, of the English scheme date only from the year 1851; and the details have been wrought out and consolidated by successful experiments since that time. The administration is in the hands of the department of science and art of the committee of council on education, a department of the Government; and thus uniformity of plan is secured. The agencies for industrial art education employed are, first, a museum of industrial masterpieces; and a large portion of the national collection of pictures in connection with, secondly, a national training school for art masters, both located in the same building; thirdly, a traveling museum, for exhibition in the provinces, which circulates good specimens of industrial art and forms the nucleus for local exhibitions, and also the circulation of books and paintings, on loan, to provincial schools; fourthly, examination and supervision of all grades of art instruction carried on in connection with the national system. Art instruction is divided into three grades, progressing in difficulty from the first, and called first, second, and third grade. Teachers are trained and certificated to give instruction in each, according to their powers; and, thus qualified, the Government recognizes their qualifications by paying, on a published scale, a sum of money for each successful examination passed by the pupils of these certificated teachers." (Art Education, Scholastic and Industrial, pp. 132, 133.)

AMERICAN FACILITIES FOR GENERAL INTRODUCTION OF ART TRAINING.

While, in the countries of Europe, whatever relates to the people in education, as in other matters, is in the control and general direction of the central Government, so that what the central power decides to do is readily and immediately set in motion throughout the entire country, in the United States there is wisely no such central control. This power inheres to the States and to the local communities within the States. This very circumstance, though somewhat, it may be, delaying the adoption of useful measures, yet renders the wise adaptation of training to the peculiar industries and needs of the various parts of the country far more probable. It is readily seen that the kind of special technical training would vary as it was applicable to a manufacturing, a farming, or a mining community.

INFLUENCE OF LOCALITIES ON ART DEVELOPMENT.

Indeed, this has already been exemplified in a marked degree in the different developments of the schools of science in the several States, adapting themselves in their chief courses of instruction to the industrial demands of their localities. So we may hope to have in the art future of this country, as have the different European countries, art capitals famous for their peculiar developments, and queening it over their own States, as do Dresden, and Munich, and Florence, and the other famous homes of art. San Francisco, Saint Louis, Cincinnati, Chicago, Cleveland, Pittsburgh, Philadelphia, New York, Boston, New Haven, Worcester, and many other prosperous cities and towns may become in time great centers of beauty as well as of commerce, each having its own special development, varying in architecture according to the building material most conveniently accessible, and in art production and artistic manufactures according to their special industries and resources; but all alike affording to their children thorough technical training, and all attractive because, everywhere, the eye rests on noble buildings—when the homes of industry shall also be homes of beauty, and to walk through the city streets shall be of itself an art education, as of old in Athens, as it was in many a mediæval town and is still in many an ancient city of France, and Germany, and Italy, and far-off Spain.

Now, drawing is the very alphabet of art (for art is but a language), the one essential requisite preliminary to any artistic or technical training; and, if it is desirable that the children of the public schools shall be fitted to become, if they wish it, skilled workmen in any branch of industry, it is necessary that they shall be taught to draw correctly. To those to whom art means higher things, as they suppose, than its application to every-day utensils and mere manufactures, who look for grand galleries of pictures and statues and to all the higher refinements of cultured art, it may be a suggestive reflection that, among a people ignorant of drawing and whose daily surroundings—as is true of most of the American people—afford few suggestions of art in any of its forms, high art must ever remain an exotic and native artists be rarer than the fabled phœnix.

A country's art, like all its other good things, must be based primarily upon its people. Where all are judges of art, great artists arise, just as great warriors among nations of soldiers, and until the common people know the language of art and can comprehend the meaning of line and color and form, the artist is as much out of place and as little to be looked for, as a great author would be among a people ignorant of reading.

Nor has it ever been otherwise. The history of art is the history of peoples. Nor is there anything little or common in the eyes of art. The people that produced great buildings, fine paintings, and noble statues had also the most exquisite household utensils. Their commonest articles, whose fragile beauty has outlasted the centuries, to-day, with subtle grace and perfect form, tease the eye of the artist and challenge in vain our most skilled artisans to reproduce them. The antique eastern dish of burned clay is held by the modern *connoisseur* as of more worth than its weight in silver; yet it was once in as humble and universal use as the commonest crockery of our kitchens.

Great collections, museums, art galleries, much as they may contribute to the self-satisfaction of cliques and cities, will be of the slightest possible value and barren of results, either upon the industries of the people or their art culture, so long as drawing is not generally understood.

Whoever succeeds in having all the public school children of the country properly trained in elementary drawing will have done more to advance the manufactures of the country, and more to make possible the art culture of the people, than could be accomplished by the establishment of a hundred art museums without this training. Just as libraries are worthless to those who cannot read, so are art collections to those who cannot comprehend them; just as all literature is open to him who has learned to read, so is all art to him who has learned to draw, whose eye has been trained to see and his fingers made facile to execute. We have begun at the wrong end; we asked for art galleries when we needed drawing schools. But the evil is not irremediable. Let drawing be generally taught, and our art galleries and museums, poor as they are, will at once grow more and more valuable, for they will then begin to be of use.

A BEGINNING ALREADY MADE TOWARD GENERAL ART TRAINING.

Already many cities and towns have awakened to the necessity of some art training, and some teaching of drawing has been attempted in the public schools, so that several of the cities sent specimens of the drawing of their public school children to be exhibited at Vienna, which attracted much attention from foreign observers, as, in fact, did everything relating to our system of public free education.

MASSACHUSETTS THE FIRST STATE TO ACT.

The legislature of Massachusetts, moved thereto by the peristent efforts of a few cultured and public-spirited citizens, who realized the imperative need and demand for such training in the public schools, passed an act in 1870 making drawing one of the studies of the public schools, and also making the establishment of free drawing classes for adults obligatory upon all towns and cities containing over ten thousand inhabitants. In pursuance of this law, Mr. Walter Smith, "Art master, London, late head master of the Leeds School of Art and Science and Training School for Art Teachers," was invited, both by the city of Boston and by the State of Massachusetts, to come from England and introduce the new study into the schools of the city and of the commonwealth. Mr. Smith was highly recommended by the Kensington school authorities. He was appointed State director of art education, and has been unremitting in his efforts to introduce drawing into the public schools and to foster the establishment of classes for adults. Mr. Smith was also appointed general supervisor of art in the Boston schools.

He published, in 1872, a large illustrated work upon art education,* which is indispensable to a thorough investigation of the subject, and will be found full of practical suggestions to those wishing to introduce the study into the schools.

ANNUAL REPORTS OF MASSACHUSETTS COMMITTEE ON DRAWING.

The annual report of the committee on drawing, published June 10, 1873, contains twenty-eight pages of heliotype "*fac similes* of drawings made in the ordinary course of instruction by pupils in the public schools and free industrial night classes, which were exhibited at the annual exhibition."

There are drawings from pupils in the primary, grammar, and high schools, and of children of all ages, from eight years upwards. The ages of the pupils of the evening classes whose drawings are given are from fourteen to twenty-five; these drawings are made by mechanics, clerks, wood engravers, carpenters, and shipwrights.

Certainly, as showing the results of but two years' instruction, these drawings are remarkable and full of encouragement to those who hope so much from the experiment. Two difficulties have been met: the want of persons qualified to teach the public school teachers, and the want, in the advanced classes, of pupils who had had the benefit of proper elementary training.

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* "Art Education, Scholastic and Industrial, by Walter Smith, art master, London, late head master of the Leeds School of Art and Science and Training School for Art Teachers, now professor of art education in the City of Boston Normal School of Art and State director of art education, Massachusetts." With illustrations. James Osgood & Co., Boston, 1872. pp. 398.

The general supervisor gives normal instruction to the teachers, and his lessons are repeated by two assistants.

Five hundred city school teachers attended these lessons in 1872 and 620 in 1873. The committee, in their report, speak in the highest praise of the marked advance made during the past year.

THE NORMAL ART SCHOOL.

The need of some provision for the art training of teachers became so evident that the legislature made a small appropriation for that purpose, and rooms were assigned for it in 33 Pemberton Square, Boston, Mr. Walter Smith being appointed director and an able corps of instructors secured.

In their first annual report the board of visitors say: "The most important event of the past year connected with the educational interests of the commonwealth was doubtless the establishment of the State normal art school." After expressing in the strongest terms the importance, in their judgment, to the State of general artistic and technical training, they say: "The special purpose of this school is to train teachers of drawing and the arts of design. It is the first institution of the kind established in this country. The necessity of providing this new educational instrumentality became apparent as soon as the attempt was made to carry out the provisions of the law requiring the teaching of industrial drawing, provisions which had been made in compliance with the request of leading representatives of the great industrial interests of the State. It was in vain to look to private enterprise for the means of qualifying the needed teaching staff. Public provision was indispensable."

The report urges the imperative necessity of immediately taking measures to provide more suitable accommodations; and, after declaring there is no longer any question but that this school is demanded, they close by saying: "As Americans we are apt to boast of our enterprise, especially in all matters pertaining to popular education; but it is a fact which ought to moderate our disposition to indulge in self-complacency that, since the movement was begun in this State in 1869 in favor of industrial art education, in several European cities very large and costly establishments for this purpose have been built and equipped in the amplest manner."

LETTER FROM WALTER SMITH IN 1874.

The following extract from a letter recently received at this Bureau from Mr. Smith is of interest in this connection:

"I would like to say that, called by the city of Boston and the State of Massachusetts to organize a system of industrial drawing in both, the first thing I discovered with certainty was that qualified teachers of drawing did not exist in this country; and, after a careful examination of all the drawing classes in the State, I saw the one thing necessary to make success possible was to train teachers. For this purpose Mr. John D. Philbrick, the able superintendent of the Boston city schools, to whom this educational movement is largely due, with myself and others urged the establishment of a State normal art school unsuccessfully in 1872; successfully in 1873. I have had over two hundred applications for admission; and, if proper conveniences were given (I judge that a great training school is essentially needed in this country), such a school can open with five hundred students next year. It has been terribly up-hill work and is so now, the appropriation being entirely insufficient and the two upper floors (about 35 by 18 feet each) of a private house being utterly ill-adapted for the work, the crowding and inconvenience being intolerable. Still, the best work ever done in this country, the authorities tell me, is being done in the school, and my hope is that the little we do shall be at least searching and thorough.

"I have on my desk applications from many colleges and universities in several States for accomplished teachers of art. I do not know one. It will take us four years to make one, and then we may make perhaps from ten to twenty. I wish that America could have, as every European country has, an industrial art school, which should by its graduates affect the value and beauty of every branch of industry."

REPORT OF THE MASSACHUSETTS STATE ART DIRECTOR.

In his "Second annual report on the promotion of industrial art education in the State of Massachusetts for 1873," made to the State board of education, Mr. Smith refers to the difficulty of obtaining trained teachers for the free industrial drawing classes. He also dwells upon the importance of enforcing the provisions of the law requiring drawing to be taught in *all* the public schools, and especially in the teaching of drawing in the primary schools, and remarks that the usefulness of the free industrial classes is much impaired by the need of teaching the primary lessons in drawing, a difficulty which existed in England and on the continent, so that "the success of the art schools was limited and their influence on manufactures inappreciable." The remedy there was found in teaching every child to draw in the public schools, and in a few years the effect was so marked in England that, instead of there being less than a score of schools barely supported by the public, as was the case in 1851, there are now in the United Kingdom nearly eight hundred schools of art and evening classes at which instruction is given in industrial drawing.

"The agency in popularizing drawing next in importance to the normal art school is the drawing class in each normal school. Here the teachers of the public schools will be prepared for teaching drawing as one of the elementary subjects of general education.

"I have visited and examined the pupils of the four normal schools during the year. Each school has now an art class room and the nucleus of a collection both of casts and flat copies."

In regard to the free industrial drawing classes in cities of over 10,000 inhabitants, 20 are reported as having been held and three cities disregard the statute. The director suggests that the law shall be amended to include all towns of over 5,000, which would include 43 more, and suggests that the present law will work hardship to the workmen of the smaller places who may also desire to become skilled workmen. He also furnishes a schedule for a thirteen-years' course of art training in the public schools, three in the primary, six in the grammar, and four in the high schools. He also gives a schedule for a two-years' course in the free industrial drawing classes, both for instrumental drawing and for free-hand drawing, the first year's course to be the same for both.

Appended to the report of normal art school visitors is a report of the State board of examiners on the second exhibition of works from the free industrial drawing classes of the State of Massachusetts. The decided superiority of the present over the previous exhibition is spoken of, and the former superiority of the Boston schools to those of the other cities is declared to have arisen from their having had suitable casts, models, and flat examples to draw from which the other schools had not. This want having been partially supplied to the other schools, their improvement is very apparent. The examiners deem a supply of proper models indispensable to the success of these classes. There were exhibited, in 1872, 612 drawings; in 1873, 1,209, made by the pupils of these free drawing schools. For some reason several of the schools did not exhibit.

In addition to the drawings of these classes, the classes of architectural and industrial design, established in the Massachusetts Institute of Technology, exhibited some 40 architectural drawings, chiefly original designs, and 150 industrial drawings in color, partly copies and partly original designs, of muslins, cashmeres, carpets, paper-hangings, and oil-cloths.

This latter school, called the Lowell Free School of Industrial Design, is intended to train young men and women in practical designing for manufactures. The students show rapid progress and evince much aptitude for design.

THE EXPERIMENT IS OF INTEREST TO THE WHOLE COUNTRY.

I have given so much space to a summary of the progress in art education in Massachusetts under the wise and enthusiastic direction of Mr. Smith, because there the experiment of adding to the studies now taught in our free common schools such training in drawing as will enable the children to become skilled laborers is being tried for the whole country, and under favorable circumstances. It will require several years to produce the fullest results, to show the effect of a course of such training carried through the entire school life of the pupil; but it will be hardly necessary for experienced educators to wait until the completion of this experiment to judge accurately of the relative value of the study.

The verdict thus far in Massachusetts seems wholly favorable. Of the feasibility of popular art education in this country, Mr. Smith has said in his Art Education, p. 302: "In the matter of art education, we have not much to learn from the remote past. Almost all that has been done in it, except for professional or trade education, has been initiated in this century. * * * But the public and the art workmen have been ignored in the dispensation of art education in the centuries gone by so far as means of instruction went."

Mr. Smith qualifies this by referring to the insensible art education given by the noble buildings and the public art collections of the old countries. Of the almost immediate deterioration suffered by an art designer from a deprivation of these familiar art surroundings he gives a striking instance. Of all this kind of art training, Americans are and must be long deprived, which is in itself an argument for giving special attention in school to securing *some* art training. Mr. Smith suggests, however, that there must have been a beginning to all these beautiful creations, and that the capacity for art appreciation and for some art training is universal, and that, "here as well as elsewhere, the inner education must precede and create the outer"; and adds, "When drawing was by law introduced into the common schools of the State of Massachusetts, there was done by a stroke what it took European nations a good many centuries to accomplish." (Page 309.)*

To this admirably worded act, Mr. Smith (pages 11, 12) suggests that after the words "industrial drawing" the two words "and modelling" should be added, as that would include practice in industrial art necessary to modellers, carvers, and all workers in solid materials; also that the two words "or mechanical," following "industrial" as referring to drawing, should be erased, as the general term "industrial drawing" includes the mechanical division and is not a synonym for it, as some have supposed.

EUROPEAN EXPERIENCE.

The following further extracts from Art Education, after stating the kind of drawing meant by the law, give a brief but comprehensive view of the result of European experience in general art training:

"The kind of drawing which the State of Massachusetts requires that its citizens shall have an opportunity of studying is called 'industrial drawing,' and wisely so called, for in that lies a justification of its public action in the matter. * * *

"The time has arrived when the government of the State of Massachusetts has viewed the matter in the same light, and thus we are upon the threshold of a new fabric; a system of art education for the State which will undoubtedly foreshadow a national system of secondary education.

"The means whereby such a system would be best organized to meet the requirements of all classes of society and keep supply and demand in their true relationship, has been a great problem to the educationists of this locality, as it has been previously to the educationists of the Old World. There are three sections of the public to be educated: children; adult artisans; and the public generally, who come under neither of the first two divisions. How this has been provided for in most of the European States I may here shortly describe. For children, elementary drawing is taught as a part of general education in most of the public schools; for adult artisans, night schools and classes have been established in almost all towns or populous villages; and, for the general public, museums, galleries of art, and courses of public lectures on art-subjects are becoming general. Upon the comparative value of these several means there may be and is much difference of opinion, but upon one point there is a general agreement, viz, that *to make national art education possible it must commence with the children in public schools.*

"After several unsuccessful experiments, that is the conclusion at which, twenty years ago, the educationists of Great Britain arrived, and the progress which has since been made in art-education, and the consequent improvement of industrial art, is evidence enough that the problem had been solved and that they were on the right track. To establish schools of art and art galleries before the mass of the *community* were taught to draw was like opening a university before people knew the alphabet; but to provide both of these agencies in conjunction with or as a continuation of the instruction in drawing in public schools was like a logical sequence, going in rational order from strength to strength of an unbroken chain, from bud to branch, and from branch to flower, of natural and educational growth.

"While England has appropriated, in Mr. Foster's scheme, all the features of the Massachusetts system of general education that are worth anything, we are borrowing from Great Britain, as well as from other countries, the most valuable portion of their experience in technical education; and I venture to prophesy that, upon a better general basis, we shall erect an infinitely better superstructure so soon as the development of public opinion in this country will furnish us with the means for its accomplishment."

THE TEACHERS MUST BE TAUGHT BEFORE THE PUPILS CAN BE.

It is evident that, if we are to have in this country any general knowledge of drawing and of art, especially any of that technical art training which shall develop the resources of the country by improving its manufactures and raising up skilled workmen to compete with the skilled artisans of Europe, we must begin with the primary schools; and to do this successfully art teachers, who can teach the teachers of the public schools, must be trained; in short, we must apply to this part of our system of public education the same principles and machinery that have already proved so efficient in the general management of our public schools.

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* The Massachusetts law is as follows:

[Chapter 248, acts of 1870.]

SECTION 1. The first section of chapter thirty-eight of the general statutes is hereby amended so as to include drawing among the branches of learning which are by said section required to be taught in the public schools.

"SEC. 2. Any city or town may, and every city and town having more than ten thousand inhabitants shall, annually make provision for giving free instruction in industrial or mechanical drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the school committee.

"SEC. 3. This act shall take effect upon its passage.

"Approved May 16, 1870."

Normal schools so called—that is, training schools for teachers—have become a recognized and essential part of the public school systems of the several States; and, to give this principle broader scope and fuller action, educational associations and teachers' institutes are everywhere organized and sustained with the best results. Normal art schools for training art teachers, art classes in the present normal schools, and teachers' classes for instruction of the teachers in drawing by the special art teachers are the means which must be brought into action, if the study of drawing is to be successfully and generally taught in the public schools. Free industrial drawing classes for adults and technical schools for the various applications of art to industries and manufactures are and will continue to be essential; their success will be made certain whenever drawing is thoroughly and universally taught in the public schools, for then, and not until then, can they obtain pupils who have had such preliminary training as will enable them to avail themselves at once of the opportunities afforded in these schools.

KNOWLEDGE OF DRAWING ESSENTIAL TO A MASTERY OF THE CREATIVE ARTS.

In the various schools of science, instruction in topographical and mechanical drawing is given, as a matter of course, to those students who are studying civil, mining, or mechanical engineering.

To lay out a plan of grounds; to plot a survey; to map a railroad or canal; to throw a dam across or a bridge over a stream; to build an aqueduct; to devise methods for draining a mine or to erect machinery for its working; to plan engines and machines; all these, the practical work of an engineer, necessitate a knowledge of drawing—industrial and technical drawing—the artistic power applied directly to the practical needs of the world's work.

That a knowledge of drawing is necessary to the architect, and must be mastered by whoever would become one, is self-evident. In this art, which includes so many of the arts, to which sculpture is but subsidiary and painting an adornment, the skill in drawing demanded advances far beyond that required by the engineer.

A familiar knowledge of the history of architecture, as shown in its varying styles, is requisite, as well as the ability to grasp its resources, to master its minute details, and to shape its stubborn materials into forms whose harmony of proportion and beauty of outline shall compel admiration for generations. The precision of detail required of the engineer is equally demanded here, it is true; but much more is also demanded, and drawing, erewhile the humble handmaid of industry, enters royally the serene domain of art.

Wherever, then, architects are trained, either in the studios and offices of private masters or in special schools, drawing must be thoroughly taught.

Nor can he who plans ships, any more than he who designs buildings, dispense with the draughtsman's power. The lines that give beauty, speed, and safety, and with them the mastery of the seas, must grow under the pencil of the skillful designer before ever the keel can be laid, the timbers hewed, or the ductile iron be bent into its shapely curves.

The inventions which result in the machines and mechanical contrivances of which the American mind is so prolific must all take shape on paper before they can take other form. They must be drawn before they can be made. In all things which are made by man, in all manufactures, a knowledge of drawing and a possession of the skill which artistic and technical training give are useful to workman and to master.

But drawing is not the only word art has to say to the workers. In addition to purity of outline and clearness of design, to the marvelous beauty and significance of form to which drawing opens the eye, art brings her palette, and points to the varied hues with which nature enriches her productions and whispers to the artisan that she will teach him to emulate nature in these her most protean shapes. To all makers of textile fabrics art has significant words to say about designs and hues.

REFINING INFLUENCE.

In seeking to show clearly the usefulness of a knowledge of drawing and its application to so many forms of industry, its convenience, I have thus far failed to notice the higher and more ennobling influence of art, not only upon the manufactures of a people, but upon their character; the latter preceding the former, for, until the workman becomes refined, until his eye is sensitive to see and his hand facile to reproduce the finer lines of form, the more delicate shades of color, his work cannot improve.

That general art training, beginning with the teaching of drawing to school children and faithfully followed out in the different industries and professions where it is applicable, will accomplish this, the experience of Great Britain has demonstrated;

and, further, that whatever of money and of labor and time has been expended to accomplish this result has been more than repaid by the products of the industries created and improved.

HOW ART ADDS VALUE TO MANUFACTURES.

Mr. Smith, in the following statement, affirms that—

"Within the last five and twenty years we have seen a wonderful change take place in the money value of the manufactures of England."

He says while, owing to labor-saving processes, etc., the cost of production has diminished one-half, the value of the manufactured article has nearly doubled. He accounts for this by stating that—

"Every manufactured article has three elements of value: First, the raw material; second, the labor of production; third, the art character. The two first, in some few cases, are a large proportion of the value of the whole, and where no art whatever is displayed it forms the whole value. But, in a vast majority of the manufacturing products of every country, the elements of cost of material and cost of labor are insignificant in comparison with the third element, viz, art character. It is this which makes the object attractive and pleasing, or repulsive or uninteresting, to the purchaser, and is consequently of commercial value. In many objects, where the material is of little or no intrinsic worth, the taste displayed in their design forms the sole value or the principal, and it has been the general elevation of that element which has nearly doubled the commercial value of English manufactures."

He states that he has seen an advance in the artistic element from an almost barbaric condition "to the refinement of the greatest artistic epochs, and it has not been an exceptional case or a development in one direction, owing to peculiar circumstances. If we take pottery, glass, porcelain, terra-cotta, metal-work in wrought iron, brass, bronze, silver plate, goldsmiths' work, jewelry, paper-hanging, carpets, parquetry, encaustic tiles, furniture, cabinet-making, upholstery, stained glass, mural decorations, wood and stone carving, chasing, enameling, lace-making, embroidery—all show that infusion of taste which has in all cases increased, and in many cases doubled, their value in the market in five and twenty years. Now, just as drawing is the only universal language, so art is an almost universal currency, and among civilized races is universal; with this remarkable characteristic, that let the art in a thing be good art, based upon natural laws and treated with consistency and purity of feeling, and it shall consecrate the material which it ennobles, so that lapse of time will add its value, until antiquity enshrines it." (Art Education, pp. 17, 18, 19.)

SOURCES OF STATISTICAL INFORMATION.

In order to ascertain what opportunities are afforded for art-training and what public art collections are at present existing in this country, a schedule of inquiries was prepared and sent out from this Bureau, the returns to which, so far as they admit of tabulation, will be found among the statistical tables in the Appendix to the Report of the United States Commissioner of Education for 1873, which will be found at the end of this circular.*

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* The following is a copy of the art inquiries sent out from this Bureau:

INQUIRIES RESPECTING MUSEUMS OF ARCHÆOLOGY AND ART.

Name of museum?
By whom now owned?
Location, City?
County?
State?
When founded?
By whom founded?
Amount of endowments?
Income for past year, From endowments?
From State or municipal grants?
From donations?
From all other sources?
Expenditures for past year, Salaries and wages?
Rents, repairs, etc.?
Collections?
Is admission restricted; and, if so, how?
Number of visitors last year?
Are there special rooms for study; and, if so, how many?
Are there courses of study in connection with the museum; if so, please specify the course for each year?

DRAWING ALREADY INTRODUCED INTO SOME PUBLIC SCHOOLS.

In addition to the introduction of drawing in the public schools of Massachusetts, the free industrial drawing classes for adults, and the Normal Art School of Boston, drawing has been taught in the public schools of quite a number of cities and towns in the different States of the Union, both east and west, so that many communities are familiar with the idea of its becoming one of the required studies in the public schools, and in this way a step has been taken towards the general introduction of industrial and technical art training.

In all the schools of science in the country mechanical drawing at least is taught.

Number of professors and instructors?

Are lectures delivered in connection with the museum; and, if so, what number, on what subjects, and what are the terms of admission?

Collections of museum (sculpture and carvings).

Articles.	No. marble, etc.	No. bronze.	No. terra-cotta.	No. plaster.
Ancient statuary				
Copies of ancient statuary				
Ancient busts				
Copies of ancient busts				
Modern statuary				
Copies of modern statuary				
Modern busts				
Copies of modern busts				

Articles.	No. marble, etc.	No. bronze.	No. terra-cotta.	No. plaster.	No. wood.	No. copies.
Relievos, ancient						
Relievos, modern						

Carvings in ivory? Carvings in wood? Ancient inscriptions in stone? Same in metal.

Ceramics, glass, etc.

Articles.	Ancient.	Mediæval.	Modern.
Ceramic ware			
Glass ware			
Mosaics			

Paintings, engravings, etc.

Number paintings of old masters: oil; water colors?
Number copies of old masters: oil; water colors?
Number modern paintings: landscapes; ideal; genre; historical?
Number etchings?
Number engravings in steel; in copper; in wood?
Number original drawings; lithographs; chromo-lithographs; photographs?

Coins, gems, jewelry, etc.

(Specimens.)

Gold and silver ware, ancient; mediæval; modern? Coins, Greek; Roman; Saxon and English; of other series? Medals and medallions? Gems? Cameos? Intaglios? Jewelers' work, including enamels: ancient; mediæval; modern?

Miscellaneous.

(Specimens.)

Illuminated manuscripts?
Rare specimens of binding and printing?
Specimens of armor and weapons; costumes; laces; tapestry; Chinese and Japanese curiosities? North American Indian relics, etc.

——— ———,
(Signature of superintendent.)

Date

In the twenty-four pages of the circular which followed, descriptions of the art institutions of the country were given as correctly as was possible from such information as could then be obtained by use of the facilities at the service of the Bureau of Education.

The information in many instances was most meagre, and, strange as it may seem, in some few cases, there was no record to be obtained of existing institutions, until after the publication of the circular.

These notices are superseded by the fuller accounts of the institutions which are contained in the present report; while the following summary which was given at the close of the circular, preserves a record of the names of all the institutions which were included in its pages.

A comparison of the lists of institutions shows the great activity in the development of facilities for acquiring knowledge of art that has taken place in the past few years; especially shown in the opening of art schools, in the founding or enlarging of public museums of art, and in the holding of art loan exhibitions. Perhaps no more striking evidence of this growth, and of the wealth of information that has been available for this report, in contrast with the former poverty of facts, can be given than is shown by a comparison between the four meagre pages of statistics printed at the close of the circular and the twenty-six crowded pages of similar statistics given in this Report.

SUMMARY OF THE PRESENT CONDITION IN THE UNITED STATES OF EDUCATION AS RELATING TO ART (1874).

It is only necessary for the American people to be convinced that a want exists to cause them to supply it. Believing the lack of provision for industrial and general art-training in our present system of public education to be such a want, I have sought to show—

First. The need of preliminary instruction in drawing, its utility, and the practicability of its introduction into all grades of the public schools.

Secondly. What steps have been taken towards introducing it and how it can best be done.

Thirdly. The present condition of the means for industrial art training in technical schools, including the schools of science.

Fourthly. The means possessed by our higher institutions of learning for giving general knowledge of art.

Fifthly. The special schools existing for training professional artists.

Sixthly. The steps that have been taken for founding great art-museums in connection with art-training schools.

We find that in one State, Massachusetts, drawing has been by law introduced into all the public schools, and a State normal art-school established; that in many cities and towns in other States drawing has been more or less taught in the public schools; that in all the "schools of science" where engineering is taught, mechanical drawing is of necessity taught.

SCHOOLS OF DESIGN.

In schools for the practical teaching of art as applied to industry and manufactures, the free industrial classes for adults in Massachusetts, the Lowell Free School of Industrial Design at the Boston Institute of Technology, the schools of Cooper Union, the Philadelphia School of Design for Women, and the School of Design of the University of Cincinnati complete the short list.

SCHOOLS OF ART.

For the special training of artists we have the schools of the National Academy of Design, New York; the Yale School of Fine Arts, New Haven; and the new College of Fine Arts in the Syracuse University, which comprise all at present existing. The San Francisco school is soon to open. The school of the Pennsylvania Academy of Fine Arts will resume active operations on the completion of the new building.

ART DEPARTMENTS IN COLLEGES AND UNIVERSITIES.

Of the colleges possessing any special collections or facilities for giving any instruction in art, even the most general, we find, excepting Yale and Syracuse, with their special art departments, only Harvard, University of Michigan, Cornell, Rochester University, the College of Notre Dame, and Vassar College, out of the hundreds of colleges of the country, that either give any art training or possess any art collections, however small or incomplete.

PUBLIC ART MUSEUMS AND GALLERIES.

There remain, then, but the public art institutions which we have already described; there are four of these in the whole land: At Boston, New York, Washington, and San Francisco.

The Metropolitan Museum of New York, the Brooklyn Art Association, the Boston Art Museum, the Corcoran Art Gallery, and the Art Association of San Francisco are admirable instances of the methods by which communities and individuals in this country voluntarily provide those institutions for which, in other lands, the government alone is looked to.

An important means of art culture, and the only one which has appealed to the general public, is found in the public art exhibitions. To those of the Metropolitan Museum, National Academy, the Boston Athenæum, the Yale Art School, the San Francisco Art Association, and the permanent exhibitions of the Corcoran Art Gallery, I have already referred.

LOAN EXHIBITIONS.

It would not be difficult to obtain collections of fresh works of the artists for exhibition and sale, in connection with the loan exhibitions of works of art belonging to citizens that have been already suggested.

The popularity of exhibitions of good pictures, as attested by the throngs of visitors that attend them and the crowds that visit the saloons of the leading picture-dealers in the large cities, who hold perpetual exhibitions in a small way, sufficiently shows the public interest in art. Indeed, with the multiplicity of American tourists in Europe in these days, it would be strange if the love was not awakened. There are quite a number of well-known private art collections in the leading cities, which, separately, would make a desirable public gallery, and from which, as the Metropolitan Museum has shown, a loan collection of rare works can be made for public exhibition.

While I have recorded the paucity of institutions capable of giving a thorough art training and the few public art collections now in this country, it is, nevertheless, apparent that there already exists in all the leading cities the material, which needs only to be made available, to afford all necessary facilities for general and technical art training; and, if it shall be undertaken in earnest, there is possible in this country a development, both in industrial art and in what are called the higher branches of art, which, at the end of twenty-five years, will render obsolete the verdict passed upon us at the World's Fair in 1851, and never yet reversed. Here there is opened a field of honorable rivalry between the several States, cities, and towns of the Union. What England has done in this direction we can do; and the more readily, that we have the advantage of her experience. No time or force need be wasted. We have but to adopt and modify the methods so thoroughly tested there to the different conditions that may exist in our several communities.

I commend this subject of the relation of art to education to the consideration not only of all educators but to all who are interested in the varied manufacturing industries of our many States. Skill is the modern secret of success. Science becomes ever more certainly the measure of prosperity. Science underlies and must precede art; it is the strong substructure upon whose fixed foundations she builds her palace walls. In the common schools the children of America must be trained to draw if her artisans are to hold their own in the world's contest and if her artists are to enshrine her history.

If they but will it, the "republic of the people" shall become the home of an art as noble and as enduring as that which glorified the "republic of princes," whose palaces for so many centuries have lifted their stately walls above the waves, guarding for mankind, not the trophies of her warriors nor the wealth of her merchants, but the priceless work of her humbler artists.

Tintoretto, Titian, and Veronese are still fresh in men's memories, though the names of doge and patrician have faded from recollection.

[The following are the statistics given in the circular.]

Statistics of museums of art and archæology for 1873; *from replies to inquiries by the United States Bureau of Education.*

Number.	Name of museum.	Location.	By whom owned.	When founded.	By whom founded.	Amount of endowment.	Income for past year.		Expenditures for past year.	
							Amount.	Source.	Amount.	Object.
1	The Yale School of the Fine Arts.	New Haven, Conn	Corporation of Yale College.	1864	Augustus Russell Street.	$88,000	$5,930 1,800	Endowments All other	$5,870 601 700 100	Salaries and wages. Rent, repairs, etc. Collections.
2	Notre Dame Museum	Near South Bend, Ind.	Congregation (or order) of the Holy Cross.	1848	A board of trustees	0	....	....		
3	Fine arts department of the Public Library.	Boston, Mass	City of Boston	1852	City of Boston	....	0	....	0	
4	Gray Collection of Engravings.	Cambridge, Mass	Harvard University	1856	Frances Colley Gray	19,155	1,355 95	Endowments All other	500 17 846	Salaries and wages. Rent, repairs, etc. Collections.
5	Peabody Museum of American Archæology and Ethnology	... do	......do	....	George Peabody	150,000	....	....	....	
6	New Hampshire Philomathic and Antiquarian Society's Museum.	Contoocook, N. H	New Hampshire Philomathic and Antiquarian Society.	1859	The Philomathic Club	0	426 24	Donations All other	45 405	Rent, repairs, etc. Collections.
7	Metropolitan Museum of Art	New York, N. Y.	Corporation of Museum	1870	Citizens of New York	200,000	15,000	Municipal grant	5,500 15,000 1,800	Salaries and wages. Rent. Collections.
8	National Academy of Design.	... do	Corporation of Academicians.	1826	Artists of New York	50,000	8,000 700 16,300	Endowment Donations All other	22,000	All purposes.
9	Art Museum of Rochester	Rochester, N. Y.	Rochester University	....	....	....	200	Subscription.	200	Collections.
10	Western Reserve & Northern Ohio Historical Society and Museum.	Cleveland, Ohio	Department of Cleveland Library Association.	1867	Cleveland Library Association.	10 000	300	All sources	150 150	Salaries and wages. Rents, repairs, etc.
11	The Historical Society of Pennsylvania.	Philadelphia, Pa.	Historical Society of Pennsylvania.	1824	....	....	....	....	....	
12	Park Gallery of Art	Burlington, Vt.	University of Vermont and State Agricultural College.	1873	Trustees of University	....	....	....	....	
13	Corcoran Art Gallery	Washington, D. C.	Board of nine trustees	1869	W. W. Corcoran	1,000,000	50,000	Endowment	50,000	Collections.

Statistics of museums of art and archæology for 1873—Continued.

Number.	Name of museum.	Location.	Admission	Number of visitors last year.	Number of special rooms for study.	Course of study in connection with the museum.	No. of professors and instructors.	Lectures delivered.	
								Number.	Subject.
1	The Yale School of the Fine Arts.	New Haven, Conn	Free to all students; the public pay a fee of 25 cents.	8,000	5 for drawing-schools 4 painting-rooms 3 exhibition-rooms 2 library-rooms	Schools of drawing, painting, sculpture, and architecture.	4	24	The principles and means of art; the history of art. $2 per course.
2	Notre Dame Museum	Near South Bend, Ind.	Unrestricted	1,200	1				
3	Fine arts department of the Public Library.	Boston, Mass		*a*	0	0	0	0	
4	Gray Collection of Engravings	Cambridge, Mass.	Appointments to visit the collection are made by note to the curator.	100	0	0	0	0	
5	Peabody Museum of American Archæology and Ethnology.	do	At present restricted; to be soon open to the public.		0	None at present	0		
6	New Hampshire Philomathic and Antiquarian Society's Museum.	Contocook, N. H	Unrestricted	*b*	0	0	0		
7	Metropolitan Museum of Art	New York, N. Y.	Free one day each week; other days 25 cents charged.	65,000	0	0	0	0	
8	National Academy of Design	do	The public pay an entrance-fee of 25 cents.	35,000	6 rooms and alcoves	Antique school, life-school, and painting-school.	3		Annual course on art subjects. Free.
9	Art Museum of Rochester	Rochester, N. Y.					1	25	Art.
10	Western Reserve and Northern Ohio Historical Society and Museum.	Cleveland, Ohio		2,000	0	0	0	0	
11	The Historical Society of Pennsylvania.	Philadelphia, Pa	Free to all applicants	4,500		0	0	0	
12	Park Gallery of Art	Burlington, Vt.				No collections as yet	1		Art.
13	Corcoran Art Gallery	Washington, D. C.	Open every day; free two days	*c*	None at present	None at present		0	

a Not given. *b* Unknown. *c* Just opened.

Statistics of museums of art and archæology for 1873—Continued.

Name of museum and location.	Sculpture and carving.				Ceramics, &c.	Paintings, engravings, &c.			Coins, gems, jewelry, &c.	
	Statuary and busts.	Relievos, ancient and modern.	Carvings in iron and wood.	Ancient inscriptions in stone and metal.	Ceramics, glass, and mosaics.	Paintings in oil and water.	Engravings and etchings.	Photographs, lithographs, drawings, &c.	Gold and silver ware and coins and medals.	Gems, cameos, and enamels.
Yale School of Fine Arts, New Haven, Conn	42	91	1	1	....	225	18	360	....	....
Notre Dame Museum, South Bend, Ind	55	11	7	5	29	18	1,671	1,876	390	18
Athenæum Gallery, Boston, Mass	....	....	....	....	....	212	....	A number	....	....
Fine arts department, Public Library, Boston, Mass	13	0	0	0	0	9	*a*8,000	A few	Few medals	0
Museum of Fine Arts, Boston, Mass	14	....	1	....	160	6	....	10 vols.	932	....
Gray Collection of Engravings, Cambridge, Mass	....	....	....	....	....	....	6,000	....	....	....
Peabody Museum of Archæology and Ethnology, Cambridge, Mass	A number	....	A number	A number	A number	....	....	....	....	....
Art Gallery Univ. of Michigan, Ann Arbor, Mich	A number	....	....	....	....	A number	A number	A number	1,350	....
New Hampshire Philomathic and Antiquarian Society, Contocook, N. H.	4	4	6	0	93	5	432	97	442	91
Museum of Fine Arts, Cornell Univ., Ithaca, N. Y	A number	....	....	....	....	A number	Many	Many	2,900	....
Metropolitan Museum of Art, New York, N. Y	*b*1,000	....	0	....	*b*12,000	178	0	0	*b*200	....
National Academy of Design, New York, N. Y	170	....	....	....	....	400	500	*c*	....	....
Woman's Art School, Cooper Union, New York, N. Y	....	....	....	....	....	....	....	....	....	....
Art Gallery, Vassar College, Poughkeepsie, N. Y	A number	....	....	....	....	500	....	A number	....	....
Art Museum, Rochester Univ., Rochester, N. Y	A few	....	....	....	....	10	Say 300	A number	....	....
Art Museum, Syracuse University, Syracuse, N. Y.	1	A number	....	....	....	....	Over 1,000	*c*	....	....
West. Reserve and N. Ohio Hist. Soc., Cleveland, O.	....	0	12	6	4	4	121	57	318	2
Academy of Fine Arts, Philadelphia, Pa	....	....	....	....	....	....	....	....	....	....
Historical Society of Pennsylvania, Philadelp'a, Pa.	8	....	....	....	....	85	Hundreds	Many	Several 100	....
School of Design for Women, Philadelphia, Pa	71	30	....	....	....	Many	Many	Many	....	....
Park Gallery of Art, Burlington, Vt	*d*	*d*	*d*	*d*	....	....	....	....	....	....
Corcoran Art Gallery, Washington, D. C	180	....	....	....	18	100	....	....	30	....

a Including Tosti collection. *b* Di Cesnola. *c* See engravings. *d* Lately founded; has no collection yet.

Statistics of museums of art and archæology for 1873—Continued.

Name of museum and location.	Miscellaneous.									
	Illuminated manuscripts.	Rare specimens of binding and printing.	Specimens of armor and weapons.	Costumes.	Laces.	Tapestries.	Chinese and Japanese curiosities.	North American Indian relics.	Other Indian relics.	Egyptian antiquities, &c.
Yale School of Fine Arts, New Haven, Conn										
Notre Dame Museum, South Bend, Ind		10	20			9	21	36		
Athenæum Gallery, Boston, Mass										
Fine arts department, Public Library, Boston Mass	0	About 100	0	0	0	0	A few	0		
Museum of Fine Arts, Boston, Mass			28			Gobelin, 4				2, 000
Gray Collection of Engravings, Cambridge, Mass										
Peabody Museum of Archæology and Ethnology, Cambridge, Mass.			A number	A number				Many	Many	
Art Gallery Univ. of Michigan, Ann Arbor, Mich										
New Hampshire Philomathic and Antiquarian Society, Contocook, N. H.	2	228	42	20	0	1	39	58		
Museum of Fine Arts, Cornell Univ., Ithaca, N. Y										
Metropolitan Museum of Art, New York, N. Y										
National Academy of Design, New York, N. Y										
Woman's Art School, Cooper Union, New York, N. Y										
Art Gallery, Vassar College, Poughkeepsie, N. Y										
Art Museum, Rochester Univ., Rochester, N. Y								A number	A number	
Art Museum, Syracuse University, Syracuse, N. Y										
West. Reserve and N. Ohio Hist. Soc. Cleveland, O		6	41	3			36	800		
Academy of Fine Arts, Philadelphia, Pa										
Historical Society of Pennsylvania, Philadelp'a, Pa		Several	4					Many		
School of Design for Women, Philadelphia, Pa										
Park Gallery of Art, Burlington, Vt										
Corcoran Art Gallery, Washington, D. C										

II.—LETTER FROM HON. ANDREW D. WHITE, LL.D.

It will be seen by the following letter that President White, of Cornell, did not hesitate at an early day to pronounce in favor of the new educational movement:

THE CORNELL UNIVERSITY, PRESIDENT'S ROOMS,
Ithaca, N. Y., April 30, 1871.

MY DEAR MR. CLARKE: I accept the doctrine fully that the first purpose of the public schools is to prepare our future citizens for their political duties—that is, so to equip them that they will be able to exercise their rights as citizens intelligently. This is the first thing required, for it is absolutely essential to the continuance of a republican form of government in our country.

But the time has come when something more than this must be done. The fact is that our schools are to a considerable extent educating young men away from productive industry and out of the ranks of labor.

Some branches should be grafted on the present system that will give the pupils additional aptitude in various branches of productive industry.

I know of no one branch more universally effective for this purpose than industrial drawing properly taught. It can be made to come in to increase the value of the director or the artisan in almost every form of industry. Hardly a single trade that does not need something of this kind. The difference between the artisan who can sketch out at once the thing that he is required to make, or to understand a sketch of what is required when made by some other person, and the artisan who has no such ability is enormous.

This it is that has led to the establishment of so many schools for industrial drawing in the various nations that are competing in the markets of the world for supremacy in the various manufactures. This it is that has led Massachusetts, the most far-sighted of our States, to quietly establish a system by which industrial drawing in all its grades is given from one end of the State to the other.

At my last visit to Boston I saw some of the results of this far-seeing policy.

There were young men and young women designing beautiful patterns for carpets, for printed goods, for wall-papers, beautiful forms for pottery and glassware—for all of those things which, when purchased abroad, draw such enormous sums from our people. After seeing that, I no longer wondered at the perfection which several of the New England manufacturers are rapidly attaining. In the matter of glassware alone I found that the designing of beautiful forms had already enabled New England makers to compete with the most beautiful French and English productions.

There is another value in the study of drawing which I think has not been sufficiently dwelt upon. It tends to give a training to the eye of the student—an ability to seize the various points and at the same time grasp them as a whole, which is a very important element in the training of any scholar in any stage of his or her intellectual progress. The simple fact is, that without training of this sort our system of education is wretchedly inferior to that of other nations. It will doubtless continue to send out great numbers of recruits to swell the ranks of the middlemen of the country—thousands upon thousands every year of clerks, who know just enough to get a living between producer and consumer; thousands of a low grade of professional men, who drag down the character of the learned professions; but very few who are really prepared to turn to the industries of the country with increased power to improve and strengthen them.

I sincerely hope that we may live to see the other States as wise as Massachusetts in this respect.

I remain, very truly, yours,

AND. D. WHITE.

To I. EDWARDS CLARKE, Esq.,
U. S. Bureau of Education, Washington, D. C.

III.—EXTRACTS FROM ADDRESS TO THE PENNSYLVANIA LEGISLATURE, BY WALTER SMITH.*

GENTLEMEN OF THE LEGISLATURE:

Before I address myself to the subject of my speech to-night I ought to apologize for being here at all, and my apology is that I am here not of my own seeking, but upon the invitation of gentlemen residing in this State, who have asked me to speak to you on a question with which my whole professional life has been identified.

INTRODUCTION.

In doing so, I must preface what I have to say by the statement that I am neither a lecturer nor a speaker, but a teacher; not, perhaps, wholly unaccustomed to express my thoughts in words, but entirely unused to address an audience like this on subject of so great importance.

I must therefore claim your indulgence and forbearance for all deficiencies in the manner of presenting this matter to you, and ask you to regard the views I may express as those which the hardly earned experiences of a teacher have developed.

If I can suggest some thoughts new to you, on what is to me an old and familiar a subject, it will be all I came to do and all I can expect to accomplish.

THE SUBJECT TO BE CONSIDERED.

If I understand this matter rightly, you, as the legislature of the State of Pennsylvania, are asked to appropriate a certain sum of money towards the support of the Pennsylvania Museum and School of Industrial Art, which is to be located in Memorial Hall, at Philadelphia, and my task is to show you that this scheme is worthy of public support from an economical point of view.

* * * * * * *

I presumed to accept the invitation to address you on this matter only because I have devoted the life which has been given to me in the earnest endeavor to understand it, and because all the work I have done has been, and all I ever expect to do in this world shall be, for the advancement of art education as bearing on the development of taste and skill in the industries of the world. The subject upon which I have to speak is the relative value of skilled and unskilled labor, and whether it is the duty of the State to use its influence for the development and cultivation of skilled labor as a matter of economy.

INDUSTRIAL SKILL AN ECONOMICAL MATTER.

The whole drift of this matter is a question of economy, and whether we cannot do with our labor something better than we are doing, by increasing its skill, and so stopping these costly importations. I think that what I have already said to you will show that this matter of art education is not a fanciful one.

If it were a question of mere sentiment, or of sensuous enjoyment, I should think it hardly worth the attention that you propose to give it. If it were to be something like the drawing which used to be taught in our schools, a mere innocent but useless amusement, I, for one, would have nothing to do with it, and it certainly would be beneath your serious attention.

But it is not a matter of sentiment only, but, strictly speaking, one, rather, of economy, affecting the prosperity of the country. We have to regard ourselves as in this position, that, having inaugurated and developed a system of general education which will compare favorably with that of any other country in the world, we have left out, or, rather, have never yet undertaken to add to it, this subject of technical or special education, which general education should lead up to, and upon which the prosperity of every country is so closely dependent.

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* The purposes and claims of the Pennsylvania Museum and School of Industrial Art to State aid. Delivered February 15, 1877.

I believe that we are to-day the only civilized white people on the face of the earth who have not taken up this question in the most serious manner and given the greatest attention to it.

Because this is so, and because we have neglected this important factor in education, we have been, and are now, dependent on other countries for the elegancies of home life; and, looking at the matter as a question of dollars and cents, we have paid money and are paying money away out of the country every day and every year for that which we could just as well manufacture at home, and have the credit and profit of, for ourselves.

HAS INDUSTRIAL ART EDUCATION SUCCEEDED ELSEWHERE?—EXPERIENCE IN ENGLAND AND FRANCE.

It is a curious and significant fact that the wealthiest countries in Europe to-day are those which have paid the most attention to this subject of industrial art education, and in which drawing forms a part of the education given in the common schools.

The shock which the English nation felt concerning their national industrial position at the exhibition in 1851 was followed by very decisive action on the part of the Government, and wisely so.

I look forward to results following the International Exhibition here in 1876, similar to those which followed the exhibition of 1851 in England, and that of 1862 in France.

It was shown in the exhibition of 1851 that the technical education of Great Britain either did not exist or was at fault; it was also shown that applied skill in industrial art had a trade value, was a matter not only associated with the sentiment, with the historical pride and patriotism of the country, but also closely related to its business prosperity.

Whilst the raw material which was produced and exported to other countries was of comparatively little value, the imported objects were of great value. The balance of trade and profit was on the wrong side.

And then was induced and formed a national conclusion, that deficiency in matters of taste, and art, and manufacture was to be attributed to the non-existence of a scheme of national art education.

Educators said this deficiency in taste arose from want of opportunities of education rather than from national incapacity; and those who felt the economical bearing of the matter, and they were principally the manufacturers, set the nation to work to provide a remedy for this thriftless industrial condition.

HOW ENGLAND PROVIDED A REMEDY—ITS RESULTS.

In doing this the authorities went entirely contrary to all experience in such matters.

Previously, when any country had endeavored to cultivate good taste, it would establish schools of art and picture galleries, and these it was supposed would provide the remedy, and that out of these picture galleries and schools of art the designers for manufactured goods would come. That remedy had been tried before in England, from 1836 to 1851, and had failed, and so, instead of continuing the old experiment, an entirely new departure was taken. Instead of again consulting the artists, the painters, and the sculptors of the time, upon whose advice schools of design had been established—*i. e.*, special schools for a few persons only—the English Government took counsel of the school teachers, the teachers of the common schools. It asked them what should be done to remove this want of taste among the people, which was alleged to be caused by a want of the opportunities of education in the principles of taste for the public as well as the designers. The school teachers said that the only possible remedy was to educate *all* the people in *drawing*, the common basis of fine and industrial art. Instead of picking out a few persons who were supposed to be specially gifted, and teaching them in special schools, every child ought to have the opportunity of showing what ability was in him and what skill he could acquire.

This was put into practice, and after a short time the educators came to a new conclusion, entirely contrary to what had been previously held, and very contrary to the doctrines which had been taught and believed. It was discovered that every child intelligent enough to learn to write could be taught to draw, and that every child who could be taught to draw could be developed into a skilful designer if he had the opportunity of education in the subject and a sufficient amount of encouragement.

That result established a principle and put an entirely new phase upon the whole matter. People had been told that to draw and paint and design, instead of being a reasonable occupation to be acquired and pursued like any other, and by ordinary persons, was a sort of special gift of God, something that only the lucky few were entitled to, or ever received, and that the ability to produce works of art was something carefully guarded from average persons, concealed and hidden like the secrets of the Gnostics. Acting on this artistic and industrial superstition, the persons having charge of national education in England, instead of teaching the masses of the people to draw, had taught only the few individuals supposed to be favored of Heaven, and came, as they deserved, to utter industrial grief.

But the moment this opposite and sensible conclusion was arrived at, that all should be taught to develop their faculties of sight and expression, then those who had the greater ability began to go to the front, and those who before were thought to have no ability were found to have considerable ability in the elements of art.

There can be no doubt, from the common-sense point of view, that every healthy man is a possible artist, just as every intelligent man is possibly a literary man.

It does not follow, of course, that every person we teach to write or study English composition in the common schools will become a distinguished composer, but it does follow that every one who learns to write will have acquired something of value to him in after life.

From the moment this great act of justice was carried out, that there should not be a few special schools for special persons, but that every child should share equally in the advantages of this education in art, it was found that there were the capacities for art, and the ability to design and draw, in all the people.

So it will be with us here when we are equally wise.

CAN INDUSTRIAL ART SKILL BE DEVELOPED IN AMERICA?

I wish to speak now of the possibility of bringing this country forward to the same level of success in industrial art as that which obtains in other countries, such as England, France, and Germany.

I maintain that it is not only possible, but that it would be the inevitable result of such a scheme, if carried out, as the great measure of safety for this country which you are now asked to inaugurate and support. We have stood still long enough, hiding our talents in a napkin, and being deceived with the story that success in art was not our inheritance.

To stand still at the present day means going behind, for other people are progressing; and if we stand still amidst universal progress, we must inevitably drift to the rear. Stagnation, in this progressive age, is retrogression.

WHAT HAS BEEN DONE IN MASSACHUSETTS.

Now let me say a word about our experience in Massachusetts in this matter.

It was looked upon as an artistic heresy when the school committee of Boston and the State board of education tried to remedy this want of taste and want of skilled labor in that city and State by teaching the children to draw.

But it was no experiment to determine that we could do there what had been successfully done elsewhere. We tried our hands on nearly fifty thousand public school children, and we found not one was unable to learn to draw and design with skill if he was intelligently and sensibly taught; and we have solved this new question also, about which there had been great difference of opinion and the wildest statements of theorists, that instead of its being an impossibility to teach persons to design, we find children in the public schools may all become excellent designers. I have no hesitation in saying that as good designs have been produced in the public schools, the high and grammar schools of the city of Boston, as are turned out of an average designing room in any factory. It was thought to be impossible to teach designing. This was urged and believed, by people who ought to have known better, only a few years ago. We have disproved the theory.

There can be no doubt, since this trial, that the rank and file in the Boston public schools are taught to design; and not only that, but to produce very beautiful and original designs. In fact, the difficulty in teaching children to design, is not to produce but to curb originality, for some of the designs produced are fearfully original.

The question, however, which we wished to solve was, not whether the highest class of designs could be produced by public school children, for none of us believed that, but whether the faculty of designing was in existence in all human creatures; and we solved it in the affirmative.

I hold that every child who undertakes to make that modified form of sculpture called a mud pie shows a faculty for designing. The only question to be decided now is, whether the faculty is of practical value and ought to be exercised.

Let us look at the general bearings of this phase of the question.

I say that the commencement of any system of public instruction in industrial art is to give the children a sound education in drawing, and thereby an opportunity of developing what skill and taste are in them. There will then be found here, as elsewhere, a great deal of what has never been supposed to exist in the capacity of every child—the originating or creative faculty.

I would here enter my protest against all tricks and specifics for teaching drawing. I am no believer in the doctrine that the experience of the human race can be formulated or monopolized by any one individual.

Light in art, as in every other subject, is manifested to us gradually, as we are able to hear it, not by a sudden revelation, which would destroy our dim perceptions; and a man might just as well lay claim to be a comet as to be the originator of any complete system of education. He only tabulates with less or greater skill the experience of the past, and adds a little of his own.

The foulest accusation which has been brought against myself, individually, is, that I have invented a system of drawing; and miserable book agents worry the innocent persons who find themselves, by no fault of their own, on school committees, with the statement that my system is a revelation. I am sorry for all the persons concerned in this persecution, either passively or actively, for both are equally to be pitied. I lay claim to no such invention.

I do not feel responsible for this horrible persecution, because all I have done has been to try to destroy the delusion which represented the creative or originating faculty as being the monopoly of a few individuals.

Every man has his mission, and if I can destroy the belief that some men are created by a just God to become His interpreters of the beautiful, whilst others are destined to be born blind like kittens and puppies, and, unlike those interesting quadrupeds, remain blind all their lives, and until they die, then I shall feel that I have done one man's work, and die happy when my time comes.

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THE SMALL BEGINNING OF THE SOUTH KENSINGTON MUSEUMS.

The commencement I have to-day seen, in this State, of a similar museum is a far more comprehensive and important beginning than the South Kensington Museum was in 1852—much more comprehensive and bearing directly and practically upon the industries of this State and country.

It seems to me that by commencing in this way, and utilizing the experience of other countries in forming a museum of industrial art—not a museum of fine art for luxury or sentimental enjoyment, but a museum which shall be to the industries of this country what the granary is to the husbandman, containing the seeds of future prosperity—the State is doing a profoundly wise thing. Having also the experience of other countries as a guide in establishing a school of industrial art, it is doing precisely the other necessary thing for making the whole scheme a grand success.

THOROUGH TRAINING IN ART STUDIES ESSENTIAL.

The museum without the school would be of little influence, and the school without the museum would be crippled. Teachers must be trained if the public is to be influenced, and so a normal class is to be formed in the new school.

It is quite a delusion to suppose that an ornamentist or designer requires a less thorough education in all the branches of art study than the painter or sculptor. The designer has the same need of hard study and long practice in art as the painter of pictures; his education should cover as much ground, and be given by as skilful instructors.

It is equally a delusion to suppose that if a man turns out a failure as a painter he can be successfully employed as a teacher. You cannot make a first-rate teacher out of a third-rate artist, and, indeed, you may employ some scores of first-rate artists before you will find even so good as a second-rate teacher among them, because to know how to teach necessitates the training for it as an occupation, which artists have rarely had.

It may be profoundly true that "the poet is born, not made," though I never believed more than the first half of that statement, and that half is true also about the designer and the teacher; they must be born before they can become anything, but the latter half is profoundly untrue, applied to them. They are not natural products, but manufactured articles, and the records of our normal schools show that even with the best opportunities and implements of education only a small proportion of students who desire to become teachers ever attain to the position of first-rate instructors.

The normal schools do their best, but the material is not always good enough for them to turn out first-rate workmanship in every case. No, the designer and teacher are made after they are born; first, by long and patient study, and then by weary years of hard work in their professions, acquiring skill and testing theories, and storing up the results of their labors and observations, until, in their maturity, they ripen into wisdom and fruitful service. The process by which they are made is slow, and cannot be hurried, and the road on which they travel toward perfection is a long one, beginning at the gate of birth and ending at the gate of death, with no halting place between.

NEED OF COMPETENT TEACHERS FORMERLY FELT IN EUROPE.

Some of the want of success in France and England which followed instruction in art arose from the fact that there were no competent instructors. It was found that the employment of painters and sculptors and architects in the great work of industrial art education was not always a success.

Therefore it was necessary to establish a training school, a school in which teachers could be taught, and taught the fundamental principles of good industrial art, and instructed how to teach them, in connection with these great national museums.

I understand that is precisely what is proposed to be done in this State, in the Pennsylvania Museum and School of Industrial Art; and the question has been raised whether the same work can be done in any other way than by the legislative action which represents the public interests of the State; whether, if you recognize that the industries of this country want some new spirit infused into them, and if you decide that such an infusion of skill and taste into them is desirable and would be profitable, it could be done, or would be done, without public interference and public patronage.

As a matter of fact it never has been done anywhere else except by the public, through the action of Governments.

The interests involved in the general elevation of the manufactures of the whole country are public and not private. The private manufacturer may undertake to do something in improving his specialty from which he would receive advantages; but he would require to have a monopoly of these advantages. In such a case a great improvement might result in a single branch of art without public patronage; but the improvement would be limited, and, having no other foundation than private interest, would probably be short-lived, and thus be no permanent remedy for lack of general industrial skill. This movement is for the whole people, rather than for a few, which shows it to be entitled to public support.

Full as the project is with matters of grave import to the general industries of the State, and even country, the conduct of this enterprise should not be left to casual benevolence, or be allowed to rely on private management. The interests at stake are of too great a magnitude for the public to allow its technical education to become the subject of crotchety experiments, as it would be in the hands of private persons, however well intentioned they might be.

The constitution of the corporate body which to-day applies to you for public support is framed with such practical wisdom and necessites the *ex-officio* membership of so many prominent elected officials of the State, or the great cities, that the objects of the institution must inevitably be public from first to last.

VALUE OF PUBLIC SUPERVISION.

Another consideration is, that a general movement, such as this, requires the fostering hand and intelligent direction and supervision of the public itself. There should be on public grounds a right to interfere if the scheme goes wrong, and there can be no question that the character which will be given to such a museum as this by the support of the legislature, and, to a certain extent, by the control of the legislature, would be a very valuable one in the estimation of the public.

This is one of the enterprises which cannot be left to charity, nor ought it to be dependent upon the patronage of the benevolent.

It should be carried out, if at all, as a matter of public improvement, addressing itself to public needs.

If I understand the matter, what this legislature is asked to do toward the enterprise is really to add the keystone to the arch, the arch that has been built by the great Centennial and International Exhibition of 1876, and by the far-seeing practical people who have taken advantage of it.

THE NEED OF INDUSTRIAL ART EDUCATION GENERAL.

The good to be done is not only so public for the State, but so public and generally needed for the whole country, that if you take this matter up seriously in the State of Pennsylvania, you can hardly prevent some of the good extending to other places. If it were your selfish wish to prevent such a result, you could hardly do so.

There can in any case be only a few centers of this highest form of technical instruction, such as Pennsylvania, Massachusetts, New York, and a few other industrial centers.

But I do not suppose it would influence you much against the scheme if such a result were to occur, that some of the good done in Pennsylvania, some of the skill developed here, should find its way outside, overflowing Pennsylvania into neighboring States. For you may depend upon it that will be the case.

Even with our limited experience in Massachusetts, the students trained for teaching in the Normal Art School are already giving instruction in nearly twenty States of this Union, as well as in some of the British provinces.

There will be the same result here; and I hardly think this is much to be regretted, seeing how much we owe to other parts of the world which we can never pay.

FRENCH INDUSTRIAL SKILL.

If we look for an explanation of the superiority of French manufactures, we find in every city of any considerable size, in France, a school of art and a museum of art.

The skilled workmen are educated there, trained there to a love of the beautiful, and to learn from experience that this art education is not only an enjoyable thing, but a profitable thing in their education and training for useful lives as citizens; and it seems impossible that we should ever arrive at successful manufactures here until we have similar agencies of improvement. So that in every city of importance there should be technical education added to the system of general education. In every capital city of a State there should be a museum of art, and an industrial art school to train designers and teachers.

NUMBER OF CENTRAL EDUCATIONAL INSTITUTIONS LIMITED.

Such a grand museum as that to be established in Memorial Hall will be one of a few in the whole country. I should not be surprised if in these United States they were as far apart as are the different capitals of European countries.

The people will have to come to them, for such museums cannot exist in every man's household; and it would be unwise to try to multiply such central museums to a great extent, because the supply of pictures and works of the great industrial masters is, to a definite and certain extent, limited.

In every picture gallery of a comprehensive kind there must be, of necessity, works of the old masters, and we should recognize at once that the supply of pictures by the old masters is limited.

I dare say you will have observed, as a general thing, that when people have been dead for two or three hundred years, and therefore have retired from active business, their productive powers are somewhat curtailed, so that they are not in the habit of producing a great number of works; and that happens to be the case with the producers of the old pictures, and also with the old industrial masters. Though you have to-day, in the exhibition at Philadelphia, a great many magnificent specimens of industrial masterpieces, as well as of modern artistic designs, yet the supply of ancient workmanship is, and must be, limited.

It will be possible, therefore, to have such important museums in only a few great centers of industry. It may be advisable, at some future time, to have the two great departments of technical education in art and science divided, and the educational patronage of the State should be equally bestowed on different localities.

APPENDIX C.

PRACTICAL PAPERS ON DRAWING,

Comprising plans, programmes, and suggestions for the successful introduction of the study of drawing in public schools, by Professor Walter Smith, Art Master, State Art Director of Massachusetts, etc., etc.

Public addresses to teachers by Walter Smith, and two lectures, one on the practical teaching of drawing and one on its direct relations to manual training, by Walter S. Perry, Supervisor of Drawing in Worcester, Mass.

I.—Introduction.

II.—Letter from Walter Smith, State Art Director of Massachusetts, to John Eaton, LL. D., U. S. Commissioner of Education, suggesting plans for organizing instruction in drawing in State and city schools. 1875.

III.—Plan and graded programme of instruction in drawing for the public schools of Massachusetts, prepared by Walter Smith, State Art Director. 1879.

IV.—Practical suggestions by Walter Smith, Art Director, to the teachers of the Primary, Grammar, and High Schools of Boston, in three lectures, one to teachers of each grade. Delivered in 1879 and '81; published 1882.

V.—Extracts from addresses on "Technical Education and Industrial Drawing in Public Schools," delivered in Montreal and Quebec by Professor Walter Smith in 1882.

VI.—Two lectures on drawing in public schools, one delivered in Worcester before the Massachusetts Drawing Teachers' Association in 1881, the other at Saratoga, before "The National Education Association" in 1883, by Walter S. Perry, Supervisor of Drawing, Worcester, Mass.

I.—INTRODUCTION.

The following papers are here brought together as comprising, in convenient form, such detailed information as will suffice to enable the educational authorities of a town or city system of graded public schools, to successfully introduce in all the schools such progressive instruction in drawing as was established in the schools of Boston and many other Massachusetts towns, under the direction of Prof. Walter Smith.

It may not be without interest to compare the suggestions of Professor Smith embodied in the first paper, a letter to the United States Commissioner of Education, written in 1875, with his perfected programme, which immediately follows it, issued in 1880, after ten years of experience with the schools of Massachusetts.

The programmes of studies, as arranged for Normal Art Schools, are given in the account of the Massachusetts Normal Art School.*

The addresses to teachers upon the general topics of industrial art, while of direct utility to teachers, will also be found of value to all who are in any degree interested in the subject of household decoration; they are full of suggestions and embody the results of trained observation.

The lectures by Mr. Perry can hardly fail of appreciation by all those engaged in the work of teaching elementary industrial drawing in the public schools.

II.—LETTER FROM PROFESSOR SMITH IN REGARD TO INTRODUCING DRAWING IN STATE AND CITY SCHOOLS, 1875.

BOSTON, MASS., *January* 16, 1875.

MY DEAR SIR: I am happy to comply with your application and send copies of the circular and prospectus of the Massachusetts Normal Art School. Your other request that I should "show how a State, a city, a town, or even a village, should go to work so as to secure the best results in this matter of industrial drawing," is not so easy a matter; but I willingly offer a few suggestions, founded on observations and experience, neither lightly made nor of short duration.

STATE ACTION.

It may be interesting to consider what one State has done when we are inquiring as to what any State may do.

What Massachusetts has done in the matter of industrial drawing is getting to be an old story here, but may not be so well known elsewhere, and I apologize for now referring to it, by the statement that to tell any story aright the competency of the narrator to understand its points is a matter of some consequence.

Your application to me presupposes that I am a competent witness, and I comply with it as a matter of duty, in order to place on record a practical man's views, in opposition to the visionary criticism which the subject is receiving from mere theorists. Home-returned American travelers, Boston or Massachusetts men, whether accomplished art scholars like Mr. C. C. Perkins, or prominent artists like Prof. William R. Ware, or educators like Prof. C. C. Thompson, of Worcester, told but one story of their observations in Europe, viz: that the one industrial feature which Europe had, and Massachusetts lacked, was the skilled labor arising from art education. In coöperation with them, eminent educators like Mr. J. D. Philbrick considered the question both as to the possibility of introducing the subject into the system of public education, and the practical means of accomplishing it, if found to be both practicable and desirable. Much interest was aroused in the question, and a petition to the legislature was presented signed by many of the foremost men among the scholars, merchants, ministers, and others, requesting attention to the subject and legislation thereon. This petition was referred to the State board of education, which proceeded to obtain testimony from a considerable number of competent persons, all tending one way; that art education was possible, and was of much importance to the State, and of great commercial value as an investment.

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* See chapter III, Part I, of this Report.

As a result of this there followed what I consider the most extraordinary piece of legislation ever passed in this or any other country, remembering the circumstances under which it was passed.

This was the act of 1870, which took effect on its passage, and was approved May 16, 1870. It is too pithy and pregnant to be compressed in a description; so here it is entire:

[Chap. 248, Acts of 1870.]

"SEC. I. The first section of chapter thirty-eight of the General Statutes is hereby amended so as to include drawing among the branches of learning, which are by said section required to be taught in the public schools.

"SEC. II. Any city or town may, and every city and town having more than ten thousand inhabitants shall, annually make provision for giving free instruction in industrial or mechanical drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the school committee.

"SEC. III. This act shall take effect upon its passage." [Approved May 16, 1870.]

Remembering that until this time the subject of drawing had not been taught generally, and that the act took effect on its passage, and remembering also that no normal art school then existed in the United States in which teachers could be trained to teach drawing, and that only slight attention had been given to it in the regular normal schools, I do not think the expression "the most extraordinary piece of legislation ever passed" is wrongly applied to it; but after three years of observation upon its working, I may add, after the word "extraordinary," *and the most fruitful* piece of legislation, etc.

The task of teaching drawing was, by the signature of the governor of Massachusetts, imposed upon every school-teacher in the State, and the cities and towns included by population in the act had to provide instruction in industrial drawing for adults before special instructors had been trained.

This might at first sight appear arbitrary and unreasonable; the working of the law proves it to have been wise and reasonable. Of course it was impossible for every school-teacher at once to comply with the law, but it was possible to make a beginning, even if it only was the beginning of her own education in drawing; and though the cities undertook to have the subject taught in the evening classes for adults, it was with a sort of forlorn hope; yet forlorn hopes have sometimes won.

But the necessity was upon both teachers and cities to do something, and as a consequence something has been done—done so well by many teachers in several cities that its possibility in all, and by all teachers, is proved beyond a doubt.

In the absence of legislation any general action might have been indefinitely postponed, for even now there are a few places in this State where the school authorities have explained inaction by the remark that the law of 1870 provides no penalties for disobedience. If there had been no law at all, even if the sense of the community had been in favor of the new subject, it would doubtless have been observed by a still larger number of committees that there was neither a law to comply with nor a penalty for non-compliance.

The very difficulty in which people found themselves brought about its own solution. That difficulty must have been foreseen by the men who framed and those who passed the law, yet it was deliberately created; and to-day I believe that in this State we are nearer to the looked-for result of having a sound system of industrial art-education (and nearer by many more years than have elapsed) than if the statute had not been enacted and the subject left to public opinion alone.

LEGISLATIVE ACTION ESSENTIAL.

Voluntaryism in education may have many charms, principally sentimental ones, but I have lived in a country where it hindered and retarded national education for more than a quarter of a century, only to confess itself mistaken and join its opponents after a generation of mischief had been accomplished.

The State of Massachusetts was nearer than many European countries to a good system of public instruction in drawing on the day after its statute of 1870 was passed, because it became the law that every child in the State should be taught to draw, whilst that is the case only in very few European States.

It was faith in this view that brought me across the Atlantic, at a time of life when men are disposed to settle down on their work done and being accomplished, and my faith is being justified abundantly in the results I see every day around me.

Now, with regard to State action for the encouragement and development of industrial drawing, it may be asked whether it would not be wiser for a State to establish schools of art, or industrial schools, or academies of art, or museums, and picture galleries, before passing a law requiring drawing to be taught in the public schools? My answer would be, no, for that was the mistake made by both England and France; and both countries have seen it and come at last, after wasting many years and losing much money, to something of the same sort, though not so complete in its effect, as that which in Massachusetts took effect on its passage, May 16, 1870, viz, the teaching of children in the public schools.

By action in other directions than the public schools a State legislature might be led into serious and costly mistakes, but by simply requiring industrial drawing to be taught in all schools, the chances of mistake are slight. Other agencies will follow as they are needed, and the consequent increased general information upon the subject will greatly diminish danger of unwise legislation.

SUGGESTIONS AS TO NEW LEGISLATION.

There is, however, one provision which should be added to any new State legislation, viz: That all normal schools should be required to give instruction in elementary drawing, *i. e.*, in free-hand drawing, and elementary design, plane geometrical drawing, model and object drawing, linear, perspective, and memory drawing; and that, after a year from the passage of an act to encourage industrial drawing, no student should graduate from a normal school who is unable to give such elementary instruction in drawing, and that after a certain period subsequent to the passing of the act, say in three years, no teacher subordinate to the rank of a principal should be appointed as a regular teacher in the public schools who cannot show some qualification to teach the above subject as required by the act.

Free industrial evening classes for adults are perhaps harder to provide for by legislation than day schools. Here drawing becomes a specialty, requiring special teachers of experience, and they are difficult to obtain.

In this State, draughtsmen, architects, and engineers have done good service as teachers, but the limitation of their knowledge to specialties upon which they are employed, and want of experience as teachers, must eventually hinder their usefulness in any class-room where a large number of students require a wide variety in the instruction.

NORMAL ART SCHOOLS ESSENTIAL.

The only remedy for the absence of teachers of drawing, trained in all the elementary subjects, is a normal art school, somewhat like that whose prospectus I inclose. This school was not established until the want of it had been severely felt; until, in fact, some of the towns and cities had said, "Either give us teachers of drawing, or repeal the act of 1870." Then the State established it. As I said in a previous letter, it must take some years before accomplished teachers of art can be trained in the school; but the great advance made by the students who have had one year's training, and are now engaged on their second year's work, is very encouraging. And I am glad to say the State is responding nobly to the cry for more room and better accommodation, made by the students, and is providing both.

Now, I respectfully submit to you that the act of 1870, with its apparently unreasonable requirements, has created a general compliance with its intention, has created this normal art school, and will go on creating whatever else is necessary until drawing in the public schools of the State is as general as writing, and at least as profitable, and every branch of constructive industry is carried on by skilled mechanics whose taste and knowledge form the foundation of their skill.

In examining the organization and arrangement of studies in this prospectus, let me, however, remind you that, to use a Saxon simile, we had to "cut our coat according to our cloth," and not strive after the unattainable. There were two difficulties we had to meet—want of room in which to study and limited means to pay for instruction.

These came from the novelty of the experiment; but now that five hundred students have applied for admission and nearly half that number have been admitted the State will doubtless soon display her well-known sympathy with education, and provide handsomely for the needs of her industrial art students. When that has been done, there must be a sensible advance made upon what we consider rather good work under the circumstances, for the altered and improved circumstances will elevate and better the work.

I suppose that every State differs in educational legislation; that is, the means are different, though the end is the same. It cannot be that serious obstacles will permanently prevent the spread of industrial education, seeing that it is pre-eminently the want of the whole country. How the want shall be satisfied will be determined by the methods of procedure adopted in such emergencies by individual States; but I believe that wherever earnest men are to be found who comprehend the educational needs of their country, there all difficulties will disappear, and a system of industrial art education be soon established. A short act of three sentences, counting ninety-four words in all three, did the work for Massachusetts.

ACTION IN CITIES OR TOWNS.

Drawing can only become general and be regarded as an elementary subject of education when taught by the regular school teachers. It is a mistake and a misfortune to employ permanently special teachers of drawing in any school lower in grade than the high school.

The most economical and most successful way in which drawing may be introduced into the schools of a city is by the employment of a special teacher, whose duties consist of giving normal instruction to the teachers and supervision of their work in the schools. He might also be employed to teach the more technical subjects in the high school, and in the free industrial evening classes for adults. Also, at regular intervals, to give specimen lessons to a class of children in presence of all the teachers of that grade or class, and so by degrees have taught before the assembled teachers every subject and every rank or class in the schools.

But he should be absolutely forbidden to give regular lessons in any elementary class or school, or relieve the regular teachers from their responsibility to do the work each for his or her own class.

There is one feature necessarily preceding any action, and that is the drawing up of a scheme or programme on which the work is to be done. The school committee having decided what industrial drawing is, and what branches of it can be taught in schools (in which inquiry let them take counsel of those who have taught it, and not from those who have not done so), should arrange a plan for beginning, capable of modification and growth as the subject develops and more experience is acquired. Thus, free-hand drawing and geometrical drawing may be begun at once without any previous preparation, save learning the usual definitions; whilst object drawing and perspective must be postponed until after the first two subjects have been practised for some time.

The teachers should be taken over the whole course ultimately to be taught in the public schools, so that, whatever change may be made in their positions subsequently, they will be ready to take up the work of the classes they may be appointed to teach. When the normal courses of lessons are completed the teachers should be examined for a diploma in drawing, just as they are for the diploma in other subjects on graduation, and if successful, receive the diploma and be relieved from any further attendance on the normal classes—if unsuccessful their attendance should be expected until they are qualified.

Whether these normal classes should be conducted on half holidays or in school hours, necessitating thereby the breaking up of the schools whilst the teachers are being taught, is a question that had much discussion. Should the teachers sacrifice their leisure in order to qualify themselves to teach a new subject?

The best arrangement I have yet heard of, for qualifying teachers to teach drawing without depriving them of their leisure, was the dismissal of schools on Saturday mornings for one year, and the arrangement of normal classes in drawing and music to occupy the Saturday mornings. At the end of the year all who passed the examinations were relieved from further attendance, and those who did not had to attend in future on the Saturday afternoons, the regular school sessions being resumed in the morning.

During the time the teachers were receiving instruction they would reproduce the lessons received, in their own class-rooms, and thus the direct influence of a good special teacher would be felt by every child, interpreted by the regular teacher. I wish that teachers would realize that great hand-skill on their part is by no means essential to their own success in teaching; intelligent understanding of the order of steps taken in making a drawing, and just enough drawing power to correct the imperfect work of the scholars, being a sufficient qualification.

ACTION IN VILLAGES.

I find that the teaching of music has penetrated into village schools by the attendance of teachers at the teachers' institutes, and application of ideas there obtained. In many places where only one school is held the classes are regularly exercised in singing from the charts and little hand-books, though the teacher may have been considered unmusical before taking up the subject.

In one school I examined recently, I found drawing being excellently taught by several teachers, whose attention had been directed to the subject at an institute. They had looked the matter up and followed the instructions given in a manual, and all told me that in their own practice they were seldom more than two or three lessons ahead of their pupils; but they enjoyed the work, and expected the next time they took a class through this same work to do much better.

The only direct way of reaching all schools and classes will be through the normal schools, and therefore the sooner action be taken with regard to them the better for the village schools.

Any intelligent teacher, who studies the subject and practises a little, would be able in six months, by her own self-instruction, to prepare herself to teach free hand and geometrical drawing, and that would be a sufficiency to begin with.

NORMAL ART SCHOOL.

A last word concerning the Normal Art School. In arranging the curriculum, the idea has been to be comprehensive and eclectic, rather than imitative of any other school. No difference is made in the studies of the two sexes; in this respect varying from the arrangement of the London school, which omits the scientific part of the course in the education of its lady students.

One examination for diplomas has been held in our Normal Art School, and of five scientific subjects the ladies headed the list in three, were equal to the gentlemen in the fourth, and only 1 per cent. behind in the fifth. That hardly bears out the "difference in order of intellect, inability to bear the strain of study," and general belittling of women which some fanatics delight in. I commend that result to their notice. I believe the opening up of this subject of industrial art and art education will give pleasant and fruitful employment to many of our talented women, and that society will be the better for it.

Yours, faithfully,

WALTER SMITH.

To the COMMISSIONER OF EDUCATION,
U. S. Bureau of Education, Washington, D. C.

III.—PLAN AND GRADED PROGRAMME OF INSTRUCTION IN DRAWING FOR THE PUBLIC SCHOOLS OF MASSACHUSETTS. 1879.*

At the end of his annual report for 1879 the art director thus introduces the plan for the progressive system of instruction in drawing adapted to the uses of the public schools of Massachusetts, which, after nine years of experience, he authoritatively publishes:

PROGRAMME OF DRAWING FOR THE PUBLIC SCHOOLS.

By request of the Board of Education I have drawn up a synopsis of a course of study for the public day-schools, such as might give teachers and members of school committees some guidance and information concerning the object and character of the study.

This has been partly done before, but not so fully or in such detail as it is now presented.

This course of study has been arranged and formulated for the assistance of those whose duty, position, or inclination should lead them to teach drawing.

It is not constructed as a theory to be launched into practice as an experiment for trial by new hands. No subject is suggested, nor method described, that has not been practised by the writer as a teacher before it became his duty to submit this plan for the guidance of others.

It is practical because it has been carried out, and the teachers are not now asked to do anything which the author of this scheme has not seen done before, or has not already done in his own experience. Much of it is already in successful operation in this State of Massachusetts, and time and faith alone are required to secure its fulfilment in all of its stages everywhere.

The information conveyed in the scheme will, it is hoped, set some people thinking about the practical character of the study, and justify its place in the public-school educational system. The qualification of the regular teachers to teach the subject is regarded as essential throughout, and the ground to be covered by them in their studies is indicated by the courses in the three grades of study and examination for certificate awarded by the normal art school. The programme of these courses is given at the end of the scheme in an extract from the circular of the school.

As this scheme is the most important contribution towards the advancement of art education in the State that I have been able to make during this present year of 1879, I take the liberty to hope that it may form part of this report for public distribution.

Yours, faithfully,

WALTER SMITH,
State Director of Art Education, Massachusetts.

The report and programme were also issued in a separate pamphlet, the title of which is given in the preceding note.

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*Plan and Graded Programme of Instruction in Drawing for the Public Schools of Massachusetts of the Primary, Grammar, and High School Grades, by Walter Smith, Art Master South Kensington, England; Director of Drawing in the city of Boston Public Schools, State Director of Art Education in Massachusetts, and Principal of the Massachusetts Normal Art School. 1880. Boston: Rand, Avery & Co., Printers to the Commonwealth, 117 Franklin Street. 1880. Pp. 71.

SYNOPSIS OF A GRADED PROGRAMME OF DRAWING FOR PUBLIC SCHOOLS.

PRELIMINARY STATEMENT.

Exercises in drawing, like those in other subjects of elementary education, must be adapted to the average capacity of pupils when the instruction is given in classes. They must be progressive and connected, from the lowest class to the highest; but in the higher classes when, as in drawing from objects, the instruction becomes individualized, the exercises may be varied to suit the varying capacities and powers of individuals.

Whilst the common principles of representing form by lines, shade, or color are thus to be taught to all, unlimited scope for originality in the application of forms is to be given by elementary designing; the practice of rearranging old forms in new combinations, or originating new ornamental treatments of natural forms, being the outlet for special capacity.

To give instruction in drawing intelligently and promote general success, teachers should take pains to understand the aim and object sought to be accomplished by the study, and have in their minds a clear idea of how this is to be attained, so that they may all, in the several grades of their schools, be able to do their shares of the work.

This necessitates the adoption of a plan or programme of drawing in which the final result aimed at is definitely followed from the first, every grade of school and each class in the grade having its work alloted to it, advancing from the lower and preparing for the higher grades or classes adjacent to it on either side.

In such an arrangement, scheme, or plan of study, the ages and mental capacities of scholars have to be considered, and as these vary in individuals of the same grade or class, an average type must be taken and provided for in the several grades. In a well-considered and progressive plan, the work in the several grades, though of equal importance to the final result, will differ in subject and character according to its place in the plan, from that which goes before or follows after it, just as the base, shaft, and capital of the column are unlike each other, though together they form one object. The foundation, superstructure, and ornament of a building may be in different materials, but associated become one fabric; so the drawing in the primary, grammar, and high schools will vary if it is to be in harmony, and each note, whether high or low in the scale, will be part of a perfect chord.

From this point of view it becomes of great importance that the essentials of knowledge and practice should be given in each department, so that none may be omitted or repeated uselessly, none be wrongly placed, and each part be subordinated to the whole. For this reason it has been thought advisable to submit a course of study to the committees and teachers of Massachusetts, which, having been in operation and proved to be practicable, may, in its main features, be adopted in all the schools of the State. Some preliminary remarks may here be appropriately made.

THE KIND OF DRAWING TO BE TAUGHT.

The drawing required to be taught in the public schools is *industrial* drawing, not pictorial drawing. It has been so defined in the statute, because the accuracy of workmanship and good taste in design, which sound instruction in drawing imparts to the creators of industrial products, are of general interest and pecuniary value in manufactures, whilst the mental habit which scientific accuracy and love of the beautiful will develop in the minds of all will be a social advantage. Experience has proved that the surest way of elevating public taste and improving all manufacturing industries is to educate all the people in the elements of art and science in primary schools (primary, grammar, and high), and to supplement this by instruction in technical subjects given to adults in secondary schools (schools of art or science, or the evening drawing classes). This will give general information to the public, who are consumers, and the germs of a developed taste to all, and special instruction to the few originators or producers whose occupations require great manual skill or higher and further knowledge of particular branches of art industry. It will also open the door wide to all those who have especial tendencies in a creative direction, and insure that no budding genius be overlooked or misdirected.

DRAWING IN PUBLIC SCHOOLS MUST BE TAUGHT BY THE REGULAR TEACHERS.

The only way in which all children can be taught to draw, as an element in all education, is by the qualification of all teachers, according to their several grades, to give the instruction. Special teachers are out of their places when employed to teach an elementary subject in the primary grades of school; and any such instruction given by them will be costly, inefficient, and will gradually disappear, because the pupils will not be sufficiently interested to learn well any thing which their appointed guides, the regular teachers, are not sufficiently interested in to learn at all.

It follows, then, that the first step towards the introduction of drawing into public schools upon sound principles, educationally and economically, is by the appointment, in the future, of those teachers only who are qualified to teach drawing, and by the instruction of present teachers who are not now qualified to teach the subject. The first part of this condition (the qualification of teachers who are appointed in the future) is made certain by the instruction given in the State normal schools to future teachers; the second part (the giving of instruction to unqualified teachers now in service) is made practicable through the teachers trained in the State Normal Art School.

There are at present qualified teachers of drawing who have been trained in and certificated by the art school, ready to be employed by school committees in giving courses of normal lessons to teachers of public schools, whose qualifications and addresses may be ascertained on application to the school. The cost of their employment would not be great, and would only be incurred for a time; and the State Board of Education having thus made provision whereby every school committee in the State may comply with the law of 1870, and have industrial drawing, in its elementary stages, taught in the schools under their charge, it is to be hoped and expected that instruction in the subject will hereafter become general, and as much a matter of course as instruction in the other elementary subjects with which it is grouped—reading, writing, and arithmetic.

THE GENERAL PLAN.

To facilitate this much desired result, the following epitome of a general plan has been prepared. It is addressed to teachers, not to pupils; and therefore technical terms have been used without explanation, which will require thorough illustration to pupils. Those teachers who have attended courses of lessons in drawing will have no difficulty in understanding and explaining them, and those who are self-taught will be too well acquainted with text books to need such information here. It is presupposed that those who have to teach an element of education will be practically and theoretically acquainted with it; and these suggestions, therefore, are made with a view of showing what to teach, rather than the method of teaching it. All teachers who are competent to teach writing and arithmetic can readily qualify themselves to teach drawing, which, in its elementary stages, is but a combination of the two applied to form, and appealing to the mind through the eye; nor does it require exceptional taste or great manual skill to teach elementary drawing to children.

In so far as the subject applies to regular forms, upon which a knowledge of irregular forms must be based, whether plane or solid, and even to the extent of the appearance of objects, and effects of light and shade upon them, all is dependent on the understanding and reasoning powers, and not upon taste or manual skill. The truths of the multiplication table are not dependent on the beauty of the written numerals, and form is as much a matter of proportion as arithmetic. The sense or dignity of a sentence does not come from the skill shown in the handwriting, but in the thing said, and the graceful and grammatical mode of expression; so, in drawing, the value of a work arises from its truth as much as from its style; and its chief value in education is, that it may have made its producer capable of seeing what was invisible to him before he made it, think new thoughts, and cast away old ignorance. This applies to the elementary branches of drawing, and may or may not be applicable to its more exalted phases; but it is because teachers have to do with these elements that the distinction should be made, and the difference, if any, be explained. In general education we have to teach what can be learnt by all, and is useful directly or indirectly to all, leaving to advanced and special education that which may be required by the few, or possible of attainment only to gifted or fortunate persons with peculiar privileges, whose needs are not of public concern.

ELEMENTARY PROPOSITIONS.

The following propositions define the position taken on this question of industrial drawing in the public schools:—

1. All children who can be taught to read, write, and cipher, can be taught to draw.
2. Drawing, by the law of Massachusetts, is required to be taught to every child as an element of general education, like reading, writing, and arithmetic.
3. As an elementary subject, it should be taught by the regular teachers, and not by special instructors.
4. The true function of drawing in general education is to develop accuracy of per-

ception and to exercise the imagination, thereby tending to produce a love of order and to nourish originality.

5. Educationally, drawing should be regarded as a means for the study of other subjects, such as geography, history, mechanics, design. In general education it is to be considered as an implement, not as an ornament.

6. The practice of drawing is necessary to the possession of taste and skill in industry, and is therefore the common element of education for creating an enjoyment of the beautiful, and for a profitable, practical life.

7. In the primary, grammar, and high schools, drawing is elementary and general; in the normal and evening schools, advanced and special—for teaching purposes in the first, and for skilled industry in the second.

8. Good industrial art includes the scientific as well as the artistic element; science securing the necessity of true and permanent workmanship, art contributing the quality of attractiveness and beauty. The study of practical art by drawing should therefore comprehend the exactness of science by the use of instruments, as in geometrical drawing and designing, and the acquisition of knowledge of the beautiful, and manual skill in expression, by freehand drawing of historical masterpieces of art and choice natural forms.

9. Drawing may now, therefore, take its legal place in the public schools as an element of, and not as a specialty in, education, at as little cost as any other equally useful branch of instruction, with the prospect that at a future time as many persons will be able to draw well as can read and write well, and as large a proportion be able to design well as to produce a good English composition.

The terms and periods of study are so various in different localities—some committees dividing the school year equally into two terms, and others into more, or not dividing it all—that I have not considered it advisable to make any division of the year. The group of studies allotted to each year can be adapted by the authorities to suit the general regulations, and fit into arrangements upon which the other subjects are studied.

It has been assumed that public schools will be divided somewhat as follows:

Primary and general.—Primary and intermediate; grammar; and high schools.

Secondary and special.—Normal; drawing, free evening, etc.; industrial; and normal art schools.

The scheme now submitted refers only to the first group of schools; but it is my intention, as soon as possible, to publish a complete curriculum of study for the second group of four grades of schools, based on experience derived from the conduct of such institutions. Meanwhile it is not considered necessary to delay the issue of this first instalment of a complete plan, because it will be in no degree affected by the second.

It will be seen that the school-life in primary and general schools is divided into twelve years of practice—three for primary, six for grammar, and three for high schools. And the same scheme may be adapted to any system or nomenclature of grading, if it be made to represent the years of study in the order and sequence for each year as arranged.

PRIMARY AND INTERMEDIATE SCHOOLS.

FIRST YEAR.

[Two hours per week. Four lessons, half an hour each. Pupils draw on slates and blackboard; teachers, on blackboard. *Subjects of lessons*: (1) Drawing from blackboard straight lines and their combinations; (2) drawing from dictation; (3) drawing from memory; (4) design or inventive drawing. One lesson in each division every week.]

1. FREEHAND.—Pupils to be taught the names of lines, as straight or curved. The names distinguishing straight lines in different positions, as vertical or upright, horizontal or level, oblique or slanting. The relation of lines to each other; as parallel lines, or at angles with each other; the names of such angles; as right, acute, obtuse—the teacher using the common names to describe these. The combination of lines and angles to make figures; as triangles, square, rhombus, and rhomboid. The names of the different triangles. The division of lines into equal parts; their subdivision. The division of figures by lines, and names of dividing lines; as diagonal and diameter. Drawing from blackboard by direction and instruction of teacher, forms of objects or simple patterns of ornament, all composed of straight lines. Length of lines and size of figures to be tested by rule and measure after being drawn.

2. DICTATION.—Drawing the same or similar exercises from oral description, without blackboard illustrations, beginning with single lines in defined positions, then two or more combined. Simple figures and their divisions, to teach names in connection with forms. Variations of previous exercises to impress the value of names;

such as diagonal and diameter. Ruling lines of given length through given points. Measuring the length of indefinite lines already ruled.

MEMORY.—Drawing from memory examples already worked, forms or objects which are described by name, such as the Greek or Latin cross. Patterns remembered from copies on the blackboard. Teach practical accuracy of work by requiring pupils to measure the length of lines by the inch-measure after a fair effort has been made by freehand, and test the straightness of lines by the ruler, and the size of regular figures in the same manner and by the same means. Encourage observation, create ideas, and teach how to name lines and forms by questioning pupils about right and wrong interpretations of terms, always illustrated by diagrams made by teachers, and sketches on slates by pupils. Occasionally draw an outline of some well known simple object on the board, and call for criticism and analysis of its shape by the class. Then cover it up, and require the pupils to draw it from memory. Uncover it and compare the copies with the original.

4. DESIGN, OR INVENTIVE DRAWING.—Drawing of regular forms—as the square, triangle, oblong—with ruler, and of a required size by measure. Dividing them into equal parts. Filling each part with similar shapes, made by straight lines, or any form the pupil may choose. Explain symmetry and repetition. Inventive drawing to be a recreation or amusement, and pursued as in kindergarten schools. Children unable to do it, to be allowed to rest and watch those who can, and never to be distressed by their work. The first exercises to be in drawing the second side of a symmetrical form or object, one-half being given on one side of a central vertical line, to teach balance and symmetry. To repeat a given unit in the remaining division of a form, the first being given to teach repetition. Thus, a star given in one-third of an equilateral triangle, to repeat it in the other two-thirds; or a cross given in the fourth of a square, to repeat it in the remaining three-fourths. These units must be given first, before the pupils can invent their own. In each lesson try to make a distinct impression about some one point, either what symmetry is or the name of some combination of lines, or how the pencil should be held, or how the head should be placed when the drawing is being made; and never try to teach more than one thing in any one lesson. Be content in criticising to correct, or call attention to one deficiency at a time, or at a lesson, leaving the others for future remark.

SECOND YEAR (PRIMARY SCHOOLS).

[Two hours per week. Four lessons of half an hour each. Pupils draw on slates and blackboard; teachers, on blackboard. Card copies for each pupil. *Subjects of lessons:* (1) Drawing from blackboard straight lines and curves in combination; (2) drawing from dictation; (3) drawing from memory; (4) design, or inventive drawing. One lesson in each division in every week.]

1. FREEHAND.—Curves explained: the simple curve, as struck from one centre, being therefore part of a circle; the compound curve, struck from more than one centre, as the ogee curve, or line of beauty. The circle, and its parts and divisions, drawn and explained. The ellipse and ovoid explained. Polygons, regular and irregular. Combinations of curves and straight lines to produce geometric figures; as semi-circles on the sides of equilateral triangle or square. Forms of objects—as kite, top, egg and egg-cup, mouldings, or borders—made by simple curves and straight lines. Vases, teacups, pitchers, glasses, mugs, rosettes, and star-like repetitions. Simple and compound curves, balanced symmetrically on opposite sides of a straight line or axis. Common objects and patterns drawn from blackboard. The same from card copies. Enlargement (from cards) and reduction (from blackboard) in size explained and illustrated. Forms of conventional leaves, buds, and flowers, drawn and repeated upon vertical or horizontal lines, or in rosette shape about a centre. Compound curves in the outlines of pitchers, vases, &c. Freedom and rapidity of work to be aimed at. Tangency of curves with curves, and curves with straight lines, explained and illustrated by examples to be drawn.

2. DRAWING FROM DICTATION.—Polygons of even number of sides, and the circle and its parts, of given dimensions, drawn from oral instruction, without copies or use of blackboard by teacher, except to explain mistakes when the lesson is over. Lines of required length, and regular forms of given size, to be drawn sometimes by freehand alone, and tested by rules and measure; at other times, entirely by the rule and measure. Comparison and analysis of geometric form—square with rhombus, oblong with rhomboid. Proportion illustrated and explained, comparing form with form, and number with number. In early lessons dictate to the class a simple form, step by step, and draw it on the board—as each step is described completely—from beginning to end. When the lesson is thus given, examine and correct the work only at the end of the lesson, or at most twice during the lesson. Teach economy of time in working with rule and measure.

3. DRAWING FROM MEMORY.—Exercises already worked under the head of freehand, dictation, or design. Grouping of the geometric definitions; as three positions of a

straight line, three triangles, four four sided figures, the circle and its parts. Or a pattern in which either the circle, or part of it, the oval, or the ellipse (lemon) has been used; or one entirely composed of straight lines. Vases of simple construction, drawn previously from blackboard, and rosettes, in which the element of repetition is simple, are good examples for memory drawing; the element of repetition being easy to remember, and its repetition filling the given space. Have the same exercise drawn from memory several times, to form the habit of remembering; refreshing the memory by drawing the exercise on the board, and correcting previous errors by the pupils before each repetition of the same lesson. Draw on the board the outline of some simple form—as a leaf, lemon, or apple—and leave it for the pupils to look at for a week previous to the memory exercises. When that exercise comes cover up the drawing, and let the class see by their sketches how much they can remember of the form. When they have done this, uncover the drawing, and let each pupil compare and correct this with and from the original. Vary the mode and subject of the memory exercises.

4. Design, or inventive drawing.—Geometric forms in which curves are employed, either alone, as in circle, or associated with straight lines, as in quatrefoils or trefoils on the sides of squares or triangles, to be used as the enclosing forms for designs; or the hexagon or octagon, without curvilinear additions. For material, use the leaves of plants, or leaves and open flowers, to be repeated round the centre of the enclosing form an even number of times. All measurements to be made by the inch measure and all straight lines to be ruled. Leaves of the simplest kind—such as the heart shaped trefoil, leaves, buds, or flowers—to be given as materials, and the placing of them suggested in the form chosen. Much help from the teacher will be required by the pupils, and it must be given with the hope of creating interest and confidence and the love of arrangement. At convenient times of the year the teacher might obtain natural leaves and flowers, arranging them to fill geometric shapes, drawn with chalk on the blackboard; the leaves and flowers to be pinned upon the board or made adhesive by mucilage.

GENERAL REMARKS ON THE SLATE DRAWING ON THE FIRST AND SECOND YEARS IN PRIMARY SCHOOLS.

The practice of drawing in the lower classes of the primary schools is to awaken thought and gives ideas of form; to learn the names by which lines and forms are described and called in teaching drawing; to acquire a little knowledge of the alphabet and vocabulary of the language of form; and it cannot be too strongly impressed upon the teacher, that manual skill or exact knowledge is not here to be expected from the average pupil. It is not well to urge the pupils too much in the direction of making very good lines or very perfect shapes by the free hand alone. They should, however, be taught how to make a good straight line with the ruler in the dictation or memory exercises; and it will be found that this education of both eye and hand will materially help the free-hand practice. The sort of line to be looked for is an even one whether thin or thick is of no consequence; and the test of a drawing should be its attempt to display the truth of a definition or form, rather than the refinement or elegance of its presentation, which is of secondary importance at this stage. To teach drawing at this stage is to give information.

DEFINITIONS TO BE DRAWN, NOT MEMORIZED.

Geometric definitions should be learnt by drawing them, and not by memorizing the words in which they are described. The correct idea of a line or a form (as, for instance, an oblique line or a square) should come first by teaching what it is not, as well as what it is, appealing through the eye to the understanding, as in object teaching; next, the drawing of the form; and lastly, further on, the words which define it. The theory of a definition in words is, that it should reflect an image which exists in the child's mind, and not be a substitute for that image uttered by the tongue. The test of knowledge is the drawing.

In the design or inventive exercises a definite amount of recreation and full scope should be given; encouragement and help be generously distributed, but blame never. Even correction of the productions should be the exception, not the rule, remembering that theis only for the work gentle exercise of the arranging or originating faculty, and not for its severe training, which will come further on.

The position of the pupils when drawing and the holding of the pencils should be attended to, though no one position is infallible or suitable to all; and they should be allowed and encouraged to turn the slate around so as to find the easiest position in which to draw every part of the exercise. Pencils should never be shorter than the length of palm and fingers of the pupil's hand, and be kept pointed, so that the eye may follow the point in its work. The head should be kept a foot away from the slate, that the hand may have freedom, and the eye take in all the work at once.

The central vertical line of the examples, if the form be symmetrical, should always be the first line drawn, and, as a rule, the longest and most important of the constructional lines next, and then the lines of the form.

All drawings to be at least four or six inches in height or width, or as large as the slate will conveniently allow.

It is to be understood that the average age and average intelligence of classes will vary as much as the individuals in each class vary, according to their surroundings or circumstances. The programme is therefore to be adapted by teachers to suit the varying condition of classes as well as individuals, and its object be aimed at, even if not attained.

WHY DRAWING IS TAUGHT TO YOUNG CHILDREN.

It must never be forgotten that the reason for teaching drawing to children so young is to give them information by appealing to the senses, which are as well developed in the young as in the old, and not to secure the skill or accuracy which come of developed powers of perception or reason. To be in a healthy condition, the drawing in primary classes should be on the same plane as the reading or writing as to performance; and in sense of proportion, it should be on a level with the counting and first exercises in arithmetic. The letters of the alphabet and the numerals must be learned by name, and distinguished by making their forms, *somewhere;* and so also must reading and writing; and the place usually assigned to this is the primary school. This is true also about the elements or alphabet of drawing—the straight line and curve, and names given to them separately and combined.

In no subject is the pupil to be distressed, but encouraged, helped, and comforted, and the desire created to know more and do more for the enjoyment of the thing, just as, when being told a good story, children are more eager to have it go on, that they may know how it ends, than have it broken off in the middle, or be interrupted at the most interesting time.

THIRD YEAR (PRIMARY SCHOOLS).

[Two hours per week. Four lessons of half an hour each. Pupils draw on paper and blackboard; teachers, on blackboard. *Subjects of lessons:* (1) Free-hand from copies of straight line forms during first half year, and of curved forms in second half year; (2) drawing from dictation; (3) drawing from memory; (4) design, or inventive drawing.]

1. FREE-HAND.—Pupils commence to draw on paper, and learn the use of the lead-pencil and rubber. Review the work done in the first year on slates—the definitions and straight lined forms first, and the curved exercises of the second year's slate work next. Avoid giving new exercises not drawn before; the proper use of paper, pencil, and rubber being enough to teach at first. The pencil is to be held softly in sketching, and the line made at first to be a very faint one. In finishing or lining in the exercises, the pencil is to be held more upright and more firmly, and a distinct line be made. The rubber to be used sparingly. Strive after uniformity of line as to depth of tone and thickness—not too thick. In this branch there must be no ruling of lines,—all to be drawn by freehand; but all work is to be tested before being finished. Refer to subjects and directions for first and second year's work. Add to these the bud and flower of the Egyptian lotus form.

2. DRAWING FROM DICTATION.—Straight line exercises first, and afterwards those in which simple curves occur in combination with straight lines sketched from oral description alone; then drawn on the board by the teacher, the pupils to correct their work, if necessary, from the teacher's interpretation, before finishing. When the subject is simple, let one of the pupils draw it on the board, and the others criticise his work as it progresses. Explain the measures of the base and altitude of a simple curve by examples, and show the effect of varying one feature and not the other.

3. DRAWING FROM MEMORY.—The subject to be stated by the teacher in some cases for the whole class to take; in others, each pupil to be left to draw what he can best remember of an exercise previously drawn. Follow general directions given for first and second year, as to subject and method, repetition on paper being the only new work.

4. DESIGN, OR INVENTIVE DRAWING.—Subjects to be given by teachers, such as leaves or front views of flowers, to be used to fill simple geometric forms; as the equilateral triangle, square, circle, or oblong; the unit of repetition to be repeated around a centre, or on a horizontal or vertical line or axis. Expect only childish work, and be satisfied with it.

GENERAL REMARKS.—The chief work to be done during this year is to fix or refresh in the mind and memory by a deliberate review—and using new materials, lead pencil and paper—that which has been learnt before in the previous classes, much of which will have been forgotten; also to commence the practice of drawing upon paper, which is in many ways different from slate drawing, and needs more attention to individuals in the class. About methods of sketching with the lead pencil, it may be said that there is this difference between learning to draw and learning to write: in writing, the pupil is taught to make the best copy of a given letter, and to leave it when made without alteration, proceeding to write others in greater or lesser numbers with fresh observation, until the improvement comes. In drawing, this is not the process; for the pupil who makes a bad line or form is not allowed to leave it, and go on to make others of a similar kind, but should be shown how to correct the wrong line, and thus improve it; so that, when he proceeds to make another, it shall be from the starting point of his corrected work. If teachers will realize this difference, they will see that the first sketch of a drawing should be made in faint lines, as being the easier to correct if wrong; and they will also see that to forbid the use of rubber for correction is not wise educationally, and, as a rule, is cruel personally to many. Pencils such as H H H or H H, are too hard for children, H or F being usually quite hard enough. Soft pencils in use create a delicate touch. The book may be turned about, and put in the most convenient position in which to draw any part of the exercise.

PROPER USE OF THE BLACKBOARD.

The examples in books are not intended to dispense with the use of the blackboard for illustration by the teacher, to explain principles and show errors of workmanship, but to insure that all pupils shall have accurate copies to work from, and see them equally well at the right distance from the eye. This is impossible when the blackboard is alone used; for only a few pupils can see the examples on it truly, and few teachers with large classes can have time to make such accurate drawings on the board as would serve for copies, without neglecting the individual correction which the pupils should also receive. Very rough impromptu sketches on the board will illustrate principles; and this was the use that Agassiz made of them, not to illustrate drawing, but the *subject* drawn. No one who can make a drawing worth looking at will ever waste his life by making it on a blackboard; and no one but caricaturists and teachers make use of the board rightly—the one for amusement, the other for rough diagrams explaining principles.

GRAMMAR SCHOOLS.

FIRST YEAR.

[One hour and a half per week. Two lessons, three-quarters of an hour each. Pupils draw on paper and blackboard; teachers, on blackboard. *Subjects of lessons:* (1) Free-hand from copies; (2) drawing from dictation; (3) drawing from memory; (4) design, or inventive drawing.]

1. **Free-hand.**—Drawing on paper continued. Abstract curves on large scale. The spiral. Polygons of uneven number of sides; as five, seven. The progressive order in making drawing studied, viz, (1) construction-lines; (2) sketch of form; (3) erasure of construction lines, and finishing the drawing. Simple details of historic ornament; as Greek mouldings, &c. Spacing out of work. Proportion arising from subdivision of the axis or main line. ["The whole and each particular member should be a multiple of some simple unit."—*Owen Jones.*] Repetition of parts as shown in mouldings and rosettes. Geometric basis of irregular forms, and geometric construction of objects; such as vases, pitchers, &c. Illustrations of vertical, horizontal, and central repetition in mouldings and rosettes. Explain what is meant by drawings showing two dimensions, length and breadth only, by sketches of solids, showing the three dimensions, adding thickness to length and breadth.

2. **Dictation.**—Base and altitude of simple curves further explained, and short exercises given to illustrate the names used. Influence of compound curves in profiles or outlines of objects. Description of compound curves by reference to proportion of bases and altitudes. Reversing of direction of curves, as related to a straight lines. Association of curves with straight lines to produce regular geometric figures accurately described by teacher, and drawn from oral direction by pupils.

3. **Memory.**—Building up of the power to remember by adding simple irregular forms to regular geometric figure; as rosettes in square or circle. Memory drawings of the pupil's own designs. Occasional reviews of groups of geometric definitions; as all the triangles, all the quadrilaterals, polygons, the circle and its parts, the oval, ellipse, and spiral. Vary the exercises some times; at others, repeat the same.

4. **Design.**—Influence of geometric centers in rosettes, the regular line contrasting with the irregular curve. Simplicity of unit for design required. Avoid small parts in unit. If leaves are used for subject, choose such as are adapted by their shapes to fill the geometric forms to be filled, without leaving much uncovered ground. Use tracing paper to repeat the unit of design. The enclosing geometric forms to be accurately ruled and measured, and subdivisions of the space made in the same way. Teach the best way of holding the rule and pencil when ruling from one point to another, or through two given points.

SECOND YEAR (GRAMMAR SCHOOLS).

[One hour and a half per week. Two lessons, three-quarters of an hour each. Pupils draw on paper and blackboard; teachers on blackboard. *Subjects of lessons:* (1) Free-hand from copies; (2) drawing from dictation and design, or inventive drawing; (3) memory drawing; (4) models and objects from copies and objects.]

1. FREE-HAND.—Combination of straight and curved lines in ornament. Influence of number on rosettes—three, four, five, six, eight. Interlaced forms—circle and triangle. The higher curves applied—the ovoid in objects, the spiral in scroll ornament. The conventionalization of natural forms for design. Leaves from copies drawn from nature, and then conventionalized. Simple and compound leaves. Half tinting by parallel lines to distinguish form from background. Balance of unequal parts, as two sides of a natural leaf or spiral curve not symmetrical. Details of historic ornament—Roman mouldings, as the echinus, guilloche, &c. Demonstrate the distinction between symmetry and balance.

2. DICTATION AND DESIGN.—The enclosing geometric lines which form the spaces to be filled, to be dictated, of a given size, measured by scale. Units of design to be conventional leaves, drawn before as freehand exercises. Use of half tint in design: (1) on the background; (2) on the ornament. Enclosing forms to be combinations of straight lines and curves or double squares and triangles, the ornament to occupy two-thirds or three-fourths of the surface, and the background to be the remainder.

3. MEMORY.—The natural leaf, and its conventional treatment to impress meaning of conventionalizing, to be drawn from memory side by side. One object and one original design (drawn in previous years) to be reproduced. Other selected subjects.

4. MODELS AND OBJECTS FROM COPIES.—Drawing which shows the three dimensions of length, breadth, and thickness explained. Model drawing, free-hand perspective. Ellipses and their character, depending on proportion of the two axes. The circle in its three appearances: (1) circle when seen perpendicular to its plane; (2) straight line when seen in line of its plane; (3) ellipse when seen oblique to its plane. Geometric solids illustrating the circle and ellipse, sphere, cone, and cylinder. Regular geometric solids the bases of common objects. Symmetry of all objects made on a potter's wheel, or turned in a lathe, in whatever position seen, the axis of the object being the central line of symmetry. Tangency of straight lines to curves, as in elements of cone and cylinder to bases. Learn names and definitions of simple geometric solids—as cone, cylinder, sphere, cube, prism, pyramid, &c. Draw from nature an orange, lemon, egg, potato, apple.

THIRD YEAR (GRAMMAR SCHOOLS).

[One hour and a half per week. Two lessons, three-quarters of an hour each. Pupils draw on paper and blackboard; teachers, on blackboard. *Subjects of lessons:* (1) Free-hand from copies; (2) dictation, memory, and design; (3) model and object drawing from copies and solids; (4) plane geometrical drawing with compasses.]

1. FREE-HAND.—Lessons to include tracing and transferring of units and their repetition, as in design. Proper and economic use of tracing paper. Drawing on large scale of historic ornament details. Natural flowers drawn from copies, and both leaves and flowers conventionalized for ornament. Flower forms for rosettes. The scroll further illustrated by ornamental treatment of spiral line. Natural leaves to be drawn from copies, the simplest forms of plant, shrub, or tree leaves. Details of historic ornament, Byzantine and Moorish. Practice in perfect erasure of construction lines, and in even quality of finishing lines.

2. DICTATION, MEMORY, AND DESIGN.—Designing exercises to include instruction in the three features, viz, memory and dictation, as well as arranging or designing. Pupils to draw the unit of flower or leaf from memory, the enclosing form from dictation. Arrange part of unit in section of space to be filled, and apply practice in tracing and transferring to reproducing the unit and filling the space with accuracy. Half-tint to be employed. One or more solids to be drawn from dictation and one from memory. The preliminary part of the memory and dictation exercises to be the defining of the solids about to be drawn, and proving the definition by impromptu sketches by pupils.

3. MODEL AND OBJECT DRAWING.—Further practice in cone and cylinder, with axes oblique. Objects based on them, in upright positions, with axes vertical; and lying on their sides, axes oblique. Comparison of the geometric views and perspective views of the same objects. Explanation of the terms "plan" and "elevation" applied to common objects. Changes in appearance which objects undergo by change in position, the eye being fixed; or the object fixed and the eye changed in position. Draw a vase, cup, pail, bowl, lying on their sides; some looking into the objects, others with the top turned away from the eye and invisible, the bases showing. Show how a model drawing displays three dimensions, length, breadth, and thickness

4. GEOMETRICAL DRAWING.—Use of ruler and scale in exact measurements. Use of compasses and right method of holding by the hand when working. Definitions of lines, angles, figures, drawn. Constructive problems. Division of lines. Construction of simple forms; as triangles, squares, rectangles. Use of compasses and ruler to produce forms for design. Explain the function of instruments used in drawing to produce accuracy and save time. Compare work done with them to that made by free-hand. Show what the ruler and compasses can do, and what they cannot do, in drawing; how much must depend upon the eye and hand which instruments cannot accomplish; and how much the eye and hand can be assisted by the mechanical accuracy of which they are incapable. Thus distinguish between the proper and improper use of mechanical assistance in drawing; and, by recognizing the value of both, to avoid attempting that which is impossible in either alone. Illustrate, by reference to the use of drawing in practical industry, where the good workman uses instruments of precision in order to make his work sound and trustworthy; and where the draughtsman, designer, or artist must depend wholly on his freedom of hand, skill in expressing beautiful forms, and his originality in design—depending on power which cannot be assisted by instruments. Give correct general ideas on these points, and thus teach the use and avoid the abuse of mechanical help. Drawing taught in the public schools is to be practical, so as to be useful to all—a help in the workshop, office, studio, designing-room—and must therefore include all the branches that are employed in profitable industry, and are of educational value. As used in practical life, it must be so taught in the schools. Practical instruction in sharpening pencils for instrumental drawing; cutting to a chisel-point. Holding the pencil nearly vertical—not so oblique as in free-hand drawing. The value of a sharp point on the pencil in the intersection of arcs. Ruling lines through intersections. Distinction in thickness between working-lines and the result-lines of the figure. Bearing on the center of an arc whilst striking the curve, and freedom of the pencil-leg of the compasses. Reversing the position of problems, to show that the process of solution is independent of position. Exercises to illustrate the practical use of the elementary constructional problems. Point out generally the influence of geometrical forms in practical art—in architecture, in designing, in surveying land, in building bridges, and in constructing machinery. Explain the comfort, safety, and protection which true knowledge of science gives us, and how much of this depends on the acquisition of this knowledge and the skill it results in, by drawing, and from scientific drawing of which geometry is the basis, most of all. Make geometrical drawing interesting by treating it as the symbol and vehicle of ideas appertaining to its practice and value, and thus create a love of and desire for accuracy in work.

FOURTH YEAR (GRAMMAR SCHOOLS).

[One hour and a half per week. Two lessons, three-quarters of an hour each. Pupils draw on paper and blackboard; teachers, on blackboard. *Subjects of lessons:* (1) Freehand from copies. (2) Dawing from dictation, memory, and design, or inventive drawing. (3) Models and objects from copy and solid. (4) Plane-geometrical drawing with compasses.]

1. FREE-HAND.—Practice drawing of large details. Ornament composed of non-symmetrical forms Balance of unequal parts. Refinement of curvature, and tangency of long with short curves. Uniform thickness of line. Details of historic ornament, Moorish and Gothic. Compare feature of an æsthetic and symbolic style. Require the sketching of forms to be made on construction-lines enlarged or reduced from the copy without detailed instructions by teacher. Develop the habit of working from observation of the example without continuous direction from teacher. Encourage self-reliance, and make pupils sometimes call on themselves when in difficulties.

2. DICTATION, MEMORY, AND DESIGN.—Dictate the enclosing geometrical forms for design to be drawn with ruler and compasses, and their subdivision into equal parts or units of surface. Require pupils to bring natural leaves to school at suitable seasons to conventionalize them for design. Show the value of contrast between geometric and non-geometric lines in design—the former in the centres and enclosing-lines of rosettes; the latter in the drawing of the unit or in single leaves. Use leaves of more than one size, and front and side views of flowers. Dictate one geometric solid, and give one as a subject for memory drawing, each to be first defined by the class, either in words or by sketch, or in both ways.

3. MODELS AND OBJECTS.—Commence drawing of rectangular solids and objects—cube, parallelopipedon, boxes, steps, etc. Convergence of retreating parallel lines—three views of a cube, showing parallel, angular, and oblique perspective as applied to model-drawing. Solids above and below the level of the eye—rectangular pyramid and prism. Method of finding perspective centres of regular geometric forms. Subjects—square and triangular frames, hexagonal pyramid and prism, triangular prism, book, rectangular plinth, hexagonal plinth.

4. **GEOMETRICAL DRAWING.**—Constructive problems in angles and triangles. Bisection of angles. Trisection of right angles. Exercises on problems to fill spaces, such as the equilateral triangle and square by circles and arcs of circles. Inscribing figures within, and describing them about, similar figures. Special problems concerning polygons, their construction and subdivision. Circles through given points, or touching given lines. Complex figures composed of curves and straight lines in combination. Increased accuracy of work. For general points of class-instruction, refer to and repeat that given under suggestions for the third year.

FIFTH (GRAMMAR SCHOOL).

[One hour and a half per week. Two lessons, three-quarters of an hour each. Pupils draw on paper and black-board; teachers on black-board. *Subjects of lessons:* (1) Free-hand from copies. (2) Dictation, memory, and design, or inventive drawing. (3) Models and objects from copy and solid. (4) Plane-geometrical drawing with compasses.]

1. **FREE-HAND.**—Illustration of scroll in historic ornament. Details of Gothic, and type-forms of Greek. Compare the symbolic and æsthetic in ornament by examples in the two styles. Seek, by questioning pupils about the previous exercises in these styles, to keep alive the memory of, and interest in, the subject. Refer to and explain the names of the styles, and any circumstances in the history or art of the people who practiced them. The exercises in drawing to express refinement of curvature and feeling. The practice to economize time by drawing rapidly with increasing accuracy.

2. **DICTATION, MEMORY, AND DESIGN.**—Dictate a geometrical problem. Memory drawing of a solid previously drawn. Memory drawing of a design made by the pupil when in a lower class. Dictate one solid of given dimensions in a described position; as a cylinder on its side, or a group of two objects, such as a square plinth with cone upon it. In design draw the natural form of a leaf and flower and fruit, and its conventional treatment. Use these as subjects, and strive, after accurate reproduction by tracing and transferring, to fill the space ornamented. Show the effect of double enclosing-lines, parallel to each other, one darker than the other, to enclose the design.

3. **MODELS AND OBJECTS.**—Alternate practice in cylindrical forms, and objects based upon them, and in rectangular solids, and forms like them Vase, with axis oblique. Chair and table in angular perspective. Book open, below the eye. Pile of books. with angle nearest the eye. Indicate shade and shadow by half-tint; lines not to be crossed. Exercises from solid to include geometric solids above and below the eye. Subjects—cross, hexagonal frame, and such other forms as may be available. Draw one object, part of which shall be above, part on a level with, and part below, the eye, to illustrate the direction of horizontal lines in each position.

4. **GEOMETRICAL DRAWING.**—Construction of polygons on given bases and in given circles. Inscribing figures within figures, and about them. Geometric design to fill spaces. Exercises in problems. Geometric forms in ornaments; as in sculptured tracery, wall-diapers, the ornamentation of constructive forms. The geometric forms which scientific construction takes; as in roofs, bridges, &c Construction of the ellipse, the ovoid, and the spiral, and the higher curves generally, and their uses.

SIXTH YEAR (GRAMMAR SCHOOLS).

[One hour and a half per week. Two lessons of three-quarters of an hour each. Pupils draw on paper and blackboard; teachers, on blackboard. *Subjects of lessons:* (1) Free-hand analysis of ornament and plant-form. (2) Applied design for flat surfaces. (3) Model and object drawing from solids. (4) Perspective, parallel and angular.]

1. **FREE-HAND ANALYSIS.**—Review and compare historical ornament previously drawn: (1) of the three ancient styles—Egyptian, Greek, and Roman—three or four examples on one page; (2) of the three mediæval styles—Byzantine, Gothic, and Moorish—three drawings, one example of each style, on one page. In plant-form. make a botanical analysis of a growing plant in flower from nature, showing natural leaf and natural bud and flower, and their conventional treatment, for the purpose of design. Follow method of arrangement of leaves on stem, alternate or opposite, as in nature. Use either pencil or pen and ink for these studies, indicating by tinting with lines the relief or roundness of the forms. The plants usually found in class-rooms should be taken as subjects, or a few growing plants in pots be borrowed for this exercise, when none are kept in the school. A part—such as one stem or branch, enough to show the character of the plant and its growth—is sufficient for one exercise.

2. **APPLIED DESIGN.**—Apply the previous practice in design and the arrangement of form to the decoration of some useful object, choosing those subjects which are ornamented by forms without relief or roundness; as wall-papers, book-covers, encaustic titles, etc. Use as materials for design the plant-form analyzed in the free-hand section. If objects be selected to decorate—such as vases or pottery forms—

the mouldings or borders of the ancient styles may be employed in horizontal bands, as in Etruscan vases. Tile-paterns, or designs for lace or cotton prints, may be selected as subjects, each pupil to select for himself. Distinction between ornament and background to be made by half-tint of different degrees of depth, according to subject. Designs made to be the full size of object for which they are intended, or a single repeat of the design, if a wall-paper, cotton-print, or such subjects to be chosen. Two good designs in each half-year may be expected from each pupil; but one from each in that time should be required.

3. MODELS AND OBJECTS.—Studies in this branch to be entirely from the solid. Groups of two, three, or more models—such as a plinth (rectangular, hexagonal, or circular), a vase or pitcher, and a frame or ring (square, triangular, pentagonal, or hexagonal frames, or circular ring); or groups consisting of a cube or oblong block, a prism (triangular, rectangular, or hexagonal), and a cylindrical form, as a cylinder or cone, or object based on those forms. Half-tinting may be employed to give the effect of solidity and roundness. Avoid attempts at elaborate shading. Foilage from nature or fruits, or the objects in the class-room, may be taken as subjects, if every pupil can see them plainly and at a sufficient distance from the eye. Make those parts nearest the eye more distinct than those not so near, to give effect of roundness and distance. The double cross and skeleton cube for single geometric forms. With the models draw any common object that will group with them and give interest and variety, or give any beautiful object that may be available or procurable by the teacher.

4. PERSPECTIVE, PARALLEL AND ANGULAR.—(*a*) *Parallel:* The phenomena of perspective, explained by reference to pronounced perspective effects as seen by the eye; as a row of houses, lamps, view down a street, &c. Method of representing these effects on a vertical plane, called a picture plane or plane of delineation, by scientific process. Explain ground plane and picture plane; the lines employed, horizontal line, line of direction, picture line; the points—as point of sight or centre of vision, vanishing point, distance point, station point, measuring point. Explain difference between a geometric drawing and a perspective view by sketches (1) of a rectangular form, as a flight of steps; (2) of a circular object, as a cup and saucer, or by a cube and cylinder. Explain *scales* as used in perspective; such as the half inch, third of an inch, quarter or eighth of an inch scales to the foot of actual length. Explain method of finding station point and distance point, and use of latter as a measuring point in parallel perspective; method of measuring the perspective height of objects on vertical lines. Compare this process with what is really seen by the eye in the apparent regular decrease in height ot a row of lamps retreating from the eye of the spectator. Subjects for diagrams—the square, cube, oblong block (parallelopipedon), rectangular pyramid, plinth, floor of square tiles, inside of a room, hexagonal prism and pyramid triangular prism; circular plane—(1) horizontal, (2) vertical; cylinder—(1) axis at right angles to picture plane, (2) axis parallel with picture plane. Axioms to be demonstrated: (1) parallel lines retreating from the eye appear to converge to a point, called the vanishing point; (2) lines parallel with the picture plane have no vanishing points; (3) a circle seen oblique to its plane appears as an ellipse. Use of one vanishing-point.

(*b*) *Angular:* The use of two vanishing points. Method of finding the vanishing points of horizontal lines at any angle with the picture plane. Method of finding the measuring point of any line vanishing to a point. Enunciate the rules; explain them by diagrams; apply them in perspective problems. Repeat and explain these at every exercise. Explain mode of measuring perspective heights on every solid, and on single vertical lines standing upon the ground. Draw a line lying on the ground in the perspective, and making an angle with the picture plane; find its vanishing point and its measuring point, the angle it makes with the picture, and measure its length. Repeat this on lines at different angles. Subjects for diagrams—the same as those used in parallel perspective, with variations to illustrate the principles taught, and the use of two vanishing points. Apply the method employed in obtaining perspective views of regular geometric solids to objects, such as tables or chairs of simple form, boxes or books, drawing them from measurement to the scale of the diagram. Sketch by freehand on blackboard all objects to be drawn in perspective, and require the pupils to sketch them on slate or paper, also by free-hand, before putting the solid or object into perspective. Create a clear and accurate idea of the work to be done, before attempting to do it by rule. Explain the character of lines to be used in working perspective problems, and difference between working lines and result lines, and between visible and invisible result lines. Use of elevated picture line; line of heights. Half tint of parallel lines to be used on one side of solids. The solid models to be always placed before the class when being drawn in perspective, and visible and invisible edges of the solid to be thereby illustrated, and the drawing be made to express what the eye sees, as well as what is not seen. The names of points and lines—as vanishing points and measuring points, horizontal and picture lines—to be neatly lettered as obtained. The distinction between the use of vanishing points and measuring points to be made clear by repetition of their use on simple problems as exercises. Occasional drawings to be made from memory to emphasize this distinction. The meaning of working to scale to be frequently explained. Compare geometrical drawing and perspective with grammar in teaching language—a grammar of the universal and unchanging language of form—one which is without locality, nationality, or mutability. General and correct ideas must be formed before they can be expressed in lines. Skill in drawing is a consequence of right thinking in the person who makes it, and may be its cause in those who see it; and, if the cause is controlled, the result must follow. In the whole world of creative or depictive art there is no such a phenomenon as accident.

GENERAL REMARKS.

In the notes and directions under each subject, and in successive years of this course of study, fulness has been attempted where the subjects have been first introduced, or detailed information required. Thus, in the primary and high school departments, the suggestions are at greater length than in any of the grammar school class work, except perhaps in that of the last year, where new branches of practice are pursued requiring full description. It is intended that those teachers who have to work upon this plan should have the opportunity of familiarizing themselves with its development by seeing it in a complete form in all its grades from beginning to end in this report. This renders it unnecessary to repeat in every stage and for every class that which has already been formulated for previous classes, and which the teacher may consult for his own; for, however unavoidable it may be to dispense with all repetition, as, for instance, in describing reviews, &c., it has been felt that every increase of repetition means decrease of interest.

In the grammar classes generally the subject of drawing has been admirably taught wherever the teachers have been taught; and in all the branches, except perhaps that of drawing from the solid object, most of the difficulties that are felt arise from teachers having too high a standard for manual execution by the pupils. Being new to the subject, they are too impatient of executive deficiencies, and do not give credit enough to the improvement or actual attainments of scholars, nor for that which the struggling effort may have removed from or left in the child's mind—for the new ideas which have been formed and the extended range which has been developed, and imperfect or defective observation corrected. On the two subjects of teaching elementary design, and the proper use of mechanical aids, testing and measuring in free-hand drawing, so much difference of opinion is found and so much direction needed that both are here referred to. The question is often asked, how should we give lessons in design?

RIGHT METHOD OF INSTRUCTION IN DESIGN.

The design lesson should be given as follows: The teacher should give to each pupil a slip of paper on which to make sketches of the subject, and commence by dictating a geometric form in which the design is to be enclosed. Then the subject for the design, consisting of leaves, or leaves and flowers, should be drawn on a large scale on the blackboard and fully explained by the teacher, the pupils copying the forms on their papers. They should be allowed to take these memoranda home with them, and asked to make a design during the coming week and bring it with them on the day for the designing lesson. The teacher should examine these returns carefully, and allow the pupils who have produced good ones to draw them in their books. And those which are either bad, or capable of much improvement by alterations, should be criticised and the deficiencies removed by the pupils under the teacher's directions. When made as satisfactory as can be reasonably expected from the children, they should then be drawn in the books.

The reason why this week's consideration of a design by the children is necessary will be at once apparent to every teacher. It is impossible to sit down at stated times, and design a pleasing pattern; for this is labor which demands time and thought to arrange ideas and try experiments, building up the whole by repeated efforts and fresh observation. A week's interval gives time for this, and is not a great infliction on the child, but rather a pleasing employment of leisure time.

RULING AND MEASURING.

At the risk of falling into the repetition I have already deplored, and with the hope of finally creating some definite ideas on a subject not quite new, the question of ruling and measuring must also be considered.

In free-hand drawing, the hand should be trained to do without the ruler in drawing straight lines, and the compasses in striking circles; but after the hand has done its best by the guidance of the eye, its work should always be tested by mechanical tests, those being alone to be wholly relied upon.

If you want pupils to get accustomed to work with accuracy, make them always correct their inaccurate work step by step, never letting a wrong measurement pass, until the pupil feels that it is of no use doing work which will have to come out again, and that will soon result in a careful procedure from the first.

In this matter we have to be guided very much by what practical artists and practical mechanics and draughtsmen would do. However well trained their eyes may be, they never wholly rely upon their vision when geometric truth has to be expressed. And, though I would never allow a child who could draw a practically straight line to rule it first before he tried to draw it by free-hand, I would invariably require the test to be applied, and corrections made, so that finally the result should be practically right. The same applies to exercises in model drawing. A good draughtsman does not want a ruler; it is inconvenient to him; but that is because his eye is trained enough to rely upon in all free-hand work. But even he at once resorts to its help when accuracy is required, thus correcting his imperfect work by a perfect test; and my plea is, that we cannot deny the use of such means of testing their work to young children, as practical and educated draughtsmen find indispensable to make their work of practical use in industry.*

COLORS.

The names of colors, their original and composite characters, will form part of the instruction under other headings, but may fitly be referred to, also, in connection with lessons on form. Such terms as "primary," "secondary," and "tertiary" colors, the product of the admixture of primaries and secondaries, the common and artistic names given to hues, tints, and shades of the three grades of colors, complementary and harmonizing colors and tints, with information of the proportions of surface in which they are agreeable to the eye, should be explained, with the assistance of diagrams, in all the classes.

HIGH SCHOOLS.

FIRST YEAR.

[Two hours per week. Two lessons, one hour each. Pupils draw on paper and blackboard; teachers on black-board and paper. *Subjects of lessons:* (1) Perspective, parallel and angular; (2) models and objects shaded with (*a*) point and (*b*) stump; (3) free-hand analysis of plant-form and historical ornament; (4) applied design.

1. PERSPECTIVE, PARALLEL AND ANGULAR.—Review the principles of perspective delineation, given in the highest grammar classes, on different objects. Find the distance to right or left of spectator, and distance into the picture of points lying on the ground. Measure heights of vertical lines standing on the ground. Draw cone and cylinder with axes vertical, bases on the ground, no part of solids to touch the picture plane. In parallel perspective (one vanishing point), draw groups of solids, such as (1) a plinth, with prism standing on it, and terminated by a pyramid, all rectangular solids, with axes continuous and vertical; (2) a pyramid standing on a plinth; (3) a flight of steps; (4) a double cross standing on a cube; (5) a circular plinth or disk, with a frame (triangular, square, or hexagonal) standing upon it; (6) hexagonal plinth, with cone upon it; (7) skeleton cube. In angular perspective, take the same subjects and dimensions—cylinder, hexagonal and rectangular prisms, with horizontal axes making angles with the picture; chair, table, and box; open door.

Demonstrate by diagram that a measuring point measures the perspective length of a given line. Demonstrate that the method of measuring perspective heights is true by the problem xxxiii, Euclid, book i. Examples in parallel perspective to include an interior with objects previously drawn; as furniture, table, and chair. Show open doors and cornice; also windows and fireplace. View down a street with houses on both sides. An arched passage with tiled floor; floor, octagonal and hexagonal tiles. And similar problems.

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* In support of what I have said about testing work by mechanical means—that is, measuring the proportions of what has been done, and comparing them with what we know to exist in nature, or be true in the copy—I will quote what the late William M. Hunt, of Boston, said in reply to a pupil. The italics are precisely as in the published instructions which appeared in "The Worcester Palladium":

"'May I use a plumb line?' *May* you! I *beg* of you to do it! And now, because I've *told* you to do it, don't go and forget it! People think it isn't smart to measure and take pains. Well, let such draw fine things without—if they can!

"Michael Angelo measured; Raphael measured. Albert Durer passed many years trying to get at a system of measurement for the human figure, carrying it so far that he found certain parts of the body to be so many lengths of the eye. One-half of the art of the Egyptians is in their wonderful knowledge of proportion; but the *Yank* thinks it is smart to sit down and *do* horrible things *without measuring*."

This is, perhaps, a picturesque way of illustrating a principle of teaching which is much discussed; but it has the merit of being true, and every educated professional artist or teacher knows it to be true, and will say the same as Mr. Hunt did.

In drawing a circular ring, square in section, explain what is meant by "the procession of the diameter" applied to the inner concentric circle of the ring.

2. MODELS AND OBJECTS.—(*a*) *Shading with point:* Explain meaning of terms "light," "shade," "shadow," "cast shadow," "reflected light," "high light," and "glitter point." Illustrate the relative depth of these by examples and by objects—sphere and cube. Explain half-tint, cross-hatching, and stippling by three separate exercises; also flat tint and gradation by straight lines and curves used in shading—(1) on three visible faces of a cube; (2) on a sphere or cylinder. Learn principles of light and shade by copying good examples of geometric solids, and objects based upon them—cone, cylinder, and sphere, vases, pitchers, teacup and saucer, fruit forms, cube, plinth, prisms, pyramid, frames, crosses, rings, boxes, &c.

Illustrate bad work by sketching on the board (not to be copied by the pupils) examples of crossing the shading lines wrongly in cross-hatching, making the lines irregular or uneven, losing the lines too much, or leaving them showing too much. Show how to remedy bad shading, or improve it, by erasure or stippling. Direction of shading lines to express the surface and position of forms; as vertical lines in vertical planes, curved lines on round surfaces.

Explain terms used; as breadth of light and shade, chiaroscuro, repose, gradation from light to dark, middle tints, light against dark, and dark against light, contrast and harmony of depths. Highest light and darkest shadow in a subject. Values of masses in a composition. How color can be suggested by its value in the scale of light and shade. The similarity or difference in the progress from the highest light to the deepest shade on a white and a dark object.

(*b*) *Shading with stump:* Explain nature of materials used, the leather and paper stump, the chamois-skin, the erasing point. Method of using shading material, soft crayon rubbed to a powder, or the French sauce, on paper. Repeat and review principles of light and shade explained at commencement of point work; also exercises on rubbing flat tints, three examples—light, middle, and dark. Gradation from light to dark—the first on three faces of a cube; the second on a sphere, cone, or cylinder. Show method of lightening heavy work, and strengthening the depths of shadow and cast shadow. Working with stump to a straight line, erasing points of light, or recovering lost forms by erasure. Subjects to include vases, white objects, double cross, and skeleton cube.

3. FREE-HAND ANALYSIS, BOTANICAL AND HISTORICAL.—The growing plant in flower, or part of it, to be drawn from nature, showing all the features of natural growth (six pot plants in a class room would be sufficient)—arrangement of leaves on stem, flowers, and buds. Then draw front and side views of the same features geometrically arranged, conventionalized, and displaying materials for design, and ornamental capacity of the plant. Keep the relative sizes of leaves, buds, and flowers. Let the drawing from nature and the conventionalized drawings be made on the same page in the book, or on the same sheet of paper, for comparison; both of these to be of the natural size if a small plant, and to be reduced in proportion if too large. The shade and shadow which give the effect of roundness may be indicated by tinting with lines on the study from nature, but not on the geometrical treatments. Apply the practice in shading with point to the study of the growing plant, or use the stump to indicate tint and shade if preferred. In historical analysis, select groups of the same features in several styles; as, for instance, the sculptured foliage or the enriched mouldings or the capitals of columns. Draw them upon one page for comparison and analysis.

4. APPLIED DESIGN.—Employ the plant forms before analyzed as subjects for the designs. Select the object of design; as porcelain or pottery, wall-paper, lace collar, tiles, &c. Explain that ornament for a flat surface should not suggest relief or roundness; shading should not enter into such designs; that designs for horizontal planes (floors and ceilings) should be radiating from a point or from all points, and not have leading lines running prominently in any direction, except in borders; that designs for vertical planes (walls) should have a vertical axis or tendency; that symmetry, conventionalism, and repetition of details, should form the features of design for industrial or decorative ornament for subordinate purposes. Design the unit of repetition, whether a quarter, sixth, or half of the complete arrangement. Trace, transfer, and complete the design by repeating the unit as often as it occurs. Add the half tinting by lines or stump to distinguish or emphasize parts. Combine geometric forms and lines with the conventionalized natural forms, to give value to both. When the element of repetition is simple, use the smaller plants and flowers of simple character, as those of the lily or rose family.

Strive to teach the principles of consistent good taste in design. The pupil's work should show these, rather than the impotent yearning after originality. If the pupil has been led to apply the laws of good design and pure taste, and thus acquired some perception and knowledge of the fit and the beautiful, originality may be developed from this, if it has not already displayed itself. Horrible originality is not to be sought after, nor of value if discovered.

SECOND YEAR (HIGH SCHOOLS).

[Two hours per week. Two lessons, one hour each. Pupils draw on paper and blackboard; teachers, on blackboard and on [paper. *Subjects of lessons:* (1) Perspective, angular and oblique; (2) models and objects, shaded from solid; (3) free-hand analysis of plant-form and historical ornament; (4) applied design.]

1. PERSPECTIVE.—*Angular:* Continue exercises in angular perspective on problems at a distance from picture plane. Explain use of half measuring points and method of practical work when one or more vanishing points fall outside the paper; also method of measuring great heights at far distances. Practical method of putting any curved line into perspective. Use geometric plans and elevations of grouped solids to put into perspective. Illustrate the reverse process of taking an object out of perspective, and making a geometric plan and elevation of it to scale. Give simple problems in the perspective of shadows on subjects such as the sphere, cube, cone, cylinder, and cross on horizontal, vertical, and oblique planes. Draw the illustration proving that a circle seen oblique to its plane appears as an ellipse; also the demonstration that the long diameters of concentric circles, when seen in perspective, are not identical. Explain why this is called "the procession of the diameter," and affects the form of concentric circles and objects based on the cone and cylinder. Show the perspective of a regular pattern, as a fret, turning round a curved surface, as a cylinder or a vase.

Oblique: Three vanishing points. Explain the theory of vanishing planes and vanishing lines; the vanishing point of an oblique line, and method of finding it when the position of line is given. Demonstrate the accuracy of the process by a square plane perpendicular to the ground plane, and making an angle with the picture of forty-five degrees, its diagonal vanishing upwards at the angle of forty-five degrees with ground. Show method of finding the measuring point of its vanishing point, and measure the diagonal. Compare this measurement with the diagonal of the geometric square. Draw right-angled triangles, the hypothenuses forming oblique lines—first, of forty-five degrees, and, second, at sixty or thirty degrees—with ground and picture. Apply this practice with one oblique vanishing-point to drawing of square planes, both diagonals making angles of forty-five degrees with ground plane. Draw a book in angular perspective, with its half-open cover in oblique perspective; rectangular prism, cylinder, and cone, with oblique axes. Put the box, table, and chair of the last year's problems drawn in angular, now into oblique, perspective; also single cross and double cross in required positions.

Combine in one drawing (*a*) the interior of a square room in parallel perspective, (*b*) a table and chair in angular perspective, (*c*) a leaning chair, or cube on the table, in oblique perspective. The floor of the room to be tiled, and the principal feature of the floor to be a large circle three-fourths of the width of the room. Also the exterior of a house, obtaining the principal lines by rule, and adding accessories of foreground foliage, details, &c., by free-hand.

2. MODELS AND OBJECTS.—*With point:* Repeat and review the principles of light, shade, and shadow, and explain fully the meaning of chiaroscuro applied to drawing in light and shade. Demonstrate that the shadow on a white object is not black. In all cases see that the outline-drawing of the object is in true perspective before the shading is begun. The light upon the object must come from one source, no cross-lights being permitted. The cube and sphere drawn from copies last year to be the first exercises from the solid. The cube to illustrate light, shade, and shadow, and cast shadow on the three visible faces and on the horizontal plane upon which it rests. The light to be represented by faint half-tint of vertical parallel lines, not crossed; the shade, by vertical and oblique parallel lines, cross-hatched; and the shadow, by the same lines as the shade, the shadow having the addition of stippling to reduce the color of the paper. The cast shadow, a degree darker than the shadow, to be begun with firm horizontal lines and finished, like the shadow, by stippling. In the sphere, illustrate the same progress from light to dark in perfect gradation, adding the reflected light between the shadow and cast shadow, and the highest light, or glitter-point. Groups of solids having one common object, such as a pitcher or fruit of irregular form, to be taken as subjects, preference being given to those which are either white or of a light color. Strive for the effect of roundness or projection, so that the shaded object may appear to stand before its background. In drawing backgrounds, let the darkest part be near the lightest side of the object, and the lightest part con-

trast with the shady side of the object or group. Groups of two objects,—such as the triangular frame vertical with the cone, its apex passed through the frame and base oblique; the hexagonal frame and cylinder leaning in an oblique position through the frame; double cross, with sphere resting on it.

With stump: Objects of a darker hue may be chosen as subjects for stump-drawing from solid. Groups in which colored forms contrast with white; as a white vase and fruit—orange, lemon, apple, cocoanut, grapes; or a colored vase on a white plinth, rectangular, circular, or hexagonal, and a sphere or cone. Foliage of a simple large kind, or a single flower, may form part of the group; or a large white shell, or shell of light color. Good pottery and porcelain forms will give variety to the groups, or may be used as subjects singly. In treatment of the subjects avoid heaviness of effect in masses of dark tinting, and see that there are three distinct degrees of depth in the group of objects, two giving contrast and three harmony. Have one vase with oblique axis in one of the groups to apply and revive the knowledge gained in previous classes about drawing objects in such positions. Every object drawn singly or objects grouped together to be relieved by a background to assist in obtaining roundness of effect and give value and character to the objects. Show how to get effects of rough surface by erasure or by skilful handling of the stump. Seek after transparency and clearness of tint and shadow. On glazed or polished objects observe the reflection of adjacent objects and the high lights or glitter-points on each. In shading colored objects rub a medium tint over the whole form at first, take out the lights, and add the shades and shadows. The broad shades and shadows to be laid in first to obtain the general effect, gradation and detail to be added afterwards to express individuality of character in parts. Explain the difference between a sketch which is the first condition of a drawing to be finished and a sketch which is always to remain a sketch; what should be attempted in each and what avoided, and how much of the whole truth each is intended to express.

3. FREE-HAND ANALYSIS, BOTANICAL, AND HISTORICAL.—Take as subjects the lily and the honeysuckle, and show by geometric drawings the ornamental treatment of these subjects, as the lotus and anthemion in the Egyptian and Greek styles. Draw details from the historic sheets side by side with the conventionalized parts of the flowers. Climbing or parasitical plants, as the ivy, passion-flower, hop, or vine, scarlet-runner, sweet-pea, or morning-glory, showing arrangement of leaves and flowers on the stem, front and side views of leaves, buds, and flowers, and variety in size of leaves on the same plant. Draw the plants from natural specimens growing in pots, and to be found in the class-rooms, or to illustrate lessons in botany. The study from nature may be in outline or shaded with point or stump; the plant and its botanical analysis to be on one page or sheet of paper.

In historical analysis take as subjects a surface and a sculptured moulding of any three styles, or a detail common to many styles, such as the fret or labyrinth, showing the difference or similarity of treatment by comparison, as displayed in the different styles.

4. APPLIED DESIGN.—Select objects to be ornamented, as vase-forms, plate-borders; porcelain objects, as pitchers, bowls, tea-cups; glass, as goblets, globes for gas-brackets, encaustic tiles. Use as subjects the plant-forms analyzed in this year's course. Or, take the details of historic ornament for borders and lines of enrichment in the style of Greek vases, as the fret, guilloche, wave-scroll, echinus, astragal, anthemion of Greek ornament, or the same features with the acanthus foliage of Roman ornament, or the conventional foliage, and details of the Gothic or Moorish styles. If the designs be for the panels or vertical borders, or to be the ornament of spandrels or brackets, or for metal-work and scroll-ornament, use the materials found in creeping-plants with long stems, named as subjects for botanical analysis. Designs for carved ornament in architectural enrichments externally used, or to decorate a piece of furniture, as cabinet, bookcase, fireplace, chair, or any useful objects. Those which are in the round, and require sculptured ornament in one color, or to be ornamented by few and simple colors, as named above, to be chosen in preference to others. Emphasis to be laid on the moderate use of ornament, and its subordination to the use of the object ornamented; also that the true aim of good design is to increase the beauty and attractiveness, without limiting the practical value of an object; that good design recognizes the nature and capability in manufacture of the material in which an object is to be made, as well as its use, as a guide for the decoration suitable to it; that design for wrought and cast metal cannot be identical if the limitation and capacity of the materials be considered; that the material of wood, which is fibrous, and of stone and marble, which are granular, must be differently treated in design; that printed or stamped and woven fabrics have varying capacities to display design, requiring special consideration in their treatment. These first principles may be illustrated by reference to good and bad instances of design coming within the observation of teachers and pupils. Explain to pupils the propositions of Owen Jones concerning design, to be found in an appendix to this scheme.

THIRD YEAR (HIGH SCHOOLS).

[Two hours per week in one lesson. Pupils draw on paper and blackboard; teachers, on paper and blackboard. Special class-room with casts and examples required. *Subjects of Lessons:* (1) Historic ornament, in monochrome and color, from the cast and examples. (2) Light and shade, with brush, from examples, cast, and nature. (3) Color and harmony of proportions from diagrams, examples, and nature. (4) Applied designs.]

HISTORIC ORNAMENT.

1.—*In Monochrome:* First exercises with the brush in laying flat washes or even tints in one color,—sepia or India ink,—and gradations from light to dark. Apply this to drawing from the plaster cast examples of good historic ornament, sculptured, such as the high-school drawing-class room usually contains. The scroll of Lysicrates; the antefix of the Parthenon; the fret, anthemion, echinus, and astragal, and guilloche mouldings of Greek ornament; the acanthus foilage and mouldings and scroll mouldings and rosettes of Roman; the tracery, foliage, and capitals, and enriched or geometric mouldings of Gothic; the incised wall-ornament of Moresque; or the various treatments of relief ornament in the Renaissance,—would all be suitable examples. With previous practice in drawing and shading, and only the use of the brush to contend with, the pupil may be expected to draw the easier casts in two or three lessons. Apply the knowledge of light and shade, gained in the lower classes from regular geometric and other forms, to this subject. Require each pupil to point out light, shade, shadow, reflected light, and cast shadow on the cast, and upon details of it, before beginning to shade. Have a good example of cast-drawing in water-color monochrome, by the teacher of the class, suspended in the room for occasional reference. Teach the pupils to lay in shade, shadow, and cast shadow, in one broad wash, where they come together in large masses, so as to get the general effect before attending to details. The greater the number of pupils that can be placed to see one cast the better, so that the teacher may give general instruction to the group drawing one example. The teacher should have a drawing of his own of one subject, drawn in stages to show the progress of the work from the first wash to the finish, about four degrees of advancement, shown in four sketches, to refer to when questions about process are asked. The more the pupils can be kept together working on one stage of the drawing, the more time will be available to the teacher for individual correction, as well as general instruction. The highest form of teaching is to develop self-help; and it is as destructive to education to deluge a pupil with over-instruction as it is to let him perish for lack of information. A judicious proportion of help, and absence of help, from teacher to pupil will develop both progress and self-reliance in the latter, and give scope for the improvement and growth which alone come from within.

In color: The ornament in color should be from the published examples of styles, such as those of Owen Jones, Racinet, and others. Typical examples of colored or surface ornament should be chosen from a definite number of styles, and then be drawn by the pupils on one sheet; a small example of three or four styles being preferable to a large subject in one style, which would occupy as much time as the smaller ones. This work can be accomplished best by class-teaching, all the class working from a large diagram of each example prepared by the teacher; the mixture of tints, and the order of proceeding in copying the example, being directed by the instructor from the blackboard or in front of the large diagram, individual instruction being required only to correct departure from the general directions. As a rule, avoid mixing colors or tints for individuals; but produce the tints required before the whole class, whilst giving general instruction to all; and require each pupil to produce the same colors by his own skill, and following the directions of the teacher. The exact matching of delicate colors cannot always be obtained, for all people are color-blind to some extent.

LIGHT AND SHADE.

2. LIGHT AND SHADE.—The knowledge of using brushes and color in the exercises of historic ornament will prepare the pupils for the more æsthetic study of forms, such as are to be found in the human figure, architectural master-pieces, or landscape compositions. Busts, statuettes, hands, feet, masks, or subjects in bas-relief of the human figure, may be undertaken in this department; the pupils being seated for study round the subjects in as many groups as are necessary for good views of the casts, and receiving both general and individual instruction upon them. (It must be understood from the first, that a properly-lighted class-room, fitted with suitable examples for study, is as necessary to the study of the advanced departments of elementary instruction in drawing as are the chemicals and furniture in a laboratory for the study of chemistry.)

Arrange the lights so that they do not interfere, and never allow any cast to receive lights from two sources. Bas-reliefs and profiles of busts are easier to draw than statuettes, or front views of the bust. Remember this in placing the pupils, providing for each according to his powers or needs. In landscape studies in one color, the system of class instruction followed in teaching colored studies of historic ornament will also apply here. One large study completed, with three antecedent stages to place before the pupils, and show them the steps by which the final result is attained, supplemented by actual illustration before the class, and full explanation of the processes, will be found thoroughly economical of the teacher's time, and produce the best results.

HIGH-SCHOOL DRAWING IS ELEMENTARY.

The drawing taught in the high schools is as elementary in its grade as that taught in the primary schools, and its object is not to make artists of a few, but to insure that all shall learn to see and think in a true and refined way. This may be attained in drawing, as it in the classics, by a whole class studying the same book; for, though all may be learning the same thing, it will be something new to each pupil. For studies from nature or still life, single objects, as fruits of one color—such as the orange, lemon, cocoa-nut—shells, etc.; or groups consisting of a vase, a piece of fruit, or a flower, and any third object which will harmonize with them, having a background of drapery to assist in getting the effect. In this year's work, geometric solids should not be taken as subjects, the training in the principles of drawing having been sufficient in previous years. Now, these principles should be applied to the representation of irregular forms based on the regular, which will include all natural forms that can be seen by the eye. Further explain chiaroscuro, and the exact position of studies in monochrome in the scale of artistic representation, as embracing two of the three characteristics in the appearance of an object. Thus to the eye a natural object may appear to have—(1) form; (2) roundness; (3) color. In art its form being suggested by outline of contour and surface (1); its roundness or solidity, by light and shade (2); its color, by tints (3). To express it fractionally, outline, without shade or color, gives us form, which is one-third ($\frac{1}{3}$); light and shade with outline, but without color, gives us form and roundness, which are two-thirds ($\frac{2}{3}$); color, with outline and light and shade, gives us form, roundness, and color, which are three-thirds ($\frac{3}{3}$) of the truth, if each fraction be true. By this and similar illustrations, explain the order in which the study of representation should be followed, and the relative importance of each element in the expression of truth.

HOW TO LEARN TO USE THE EYES.

Pupils must be taught what to look for in an object before they can see it. Even when it is before their eyes, they must be made to see with their brains, as well as to look with their eyes. The sense of sight and faculty of vision are not the same things; the first being physical and the second mental, both combined being true perception. For this reason it is proper to study form by commencing with a knowledge of that which is simple and regular in line, plane, or solid—by that which can be formulated and defined, and which does not change. Taking this as a groundwork, it is possible to see and estimate the complex and irregular, and fix the precise degree and character of the variable; so that individuality may be perceived and expressed, even in its most subtle developments.

COLOR.

3. COLOR.—*Diagrams:* The use of color should be the last subject studied in the highest grade of primary schools—the high schools. The names, and to some extent the admixture, of colors will have been taught theoretically from the kindergarten upwards through the school course. In the last year of the high-school course, the elements of color should be taught practically by handling and using the pigments which represent colors. Begin by requiring each pupil to draw and paint a diagram of color showing the primaries and secondaries, and a second showing the secondaries and tertiaries. A third diagram, which gives the proportions of surface in which primaries, secondaries, and tertiaries harmonize, will complete the elementary or diagrammatic study of color. Full explanations of tint, tone, hue, shade, neutrals, self-tints, hot and cold, advancing and retiring colors should be given, and, if time permits, illustrated by examples. Diagrams on a large scale should be suspended before the class, and copied by each pupil. This preliminary work is required to save the time of both teachers and pupils, and to make the study of color further on an intelligent application of principles, and not a series of melancholy experiments. This work to be entirely class-work, the same for all.

EXAMPLES OF COLOR.

Examples which are to be used as copies by pupils, and in which this knowledge is illustrated, should be of objects with pronounced coloring; such as fruits or flowers, or any subject painted from nature, with or without backgrounds. Individual tastes may be consulted as to subject; and the same or an equal amount of instruction in principles and practice can be given upon the drawing of a human figure or head, landscape effects, still life, or animal form.

If good original works in water-color can be obtained for copies, so much the better; but good reproductions of the best works, if made for the purpose of instruction, are far better than poorly colored or wrongly drawn originals, just as a good cast of the Apollo would be better than the original figurehead of a vessel, and a line-engraving or photograph from the Sistine Madonna would be better for us than a nondescript daub of undoubted originality, if our purpose is to study the beautiful.

COLOR FROM NATURAL OBJECTS.

Studies from nature of objects which are colored naturally follow the principles learnt in the diagrams, and their illustration from applied examples. Subjects which do not change either in form or color, such as pottery-forms, or well-chosen common objects in any material, should be the first exercises. When a reasonable amount of expedition has been acquired, then more perishable subjects, such as fruits, flowers, or still life, may be attempted.

Single objects, with backgrounds either of drapery or colored tiles or wood-work, are the most suitable when lessons are only given once a week, and it is better for several pupils to study from the same subject, for reasons before explained. It is to be never forgotten that the works produced are to be studies, not pictures; and that the exercises in drawing, even in this class, are to be on the plane of original compositions in language, or solutions of mathematical problems, *i. e.*, like school-work in other subjects.

Intelligent, expressive work is to be sought for, and the fullest and most generous instruction imparted; but the practice of finishing highly in any one branch of drawing belongs rather to the education of the specialist or professional artist than to the high-school pupil, and it should not therefore be attempted.

HARMONY AND CONTRAST OF COLOR.

General information concerning the harmony and contrast of color should be given at every exercise, the lesson being regarded as the means or occasion for this instruction. Complementary colors; simultaneous, successive, and mixed contrasts; use of gold in ornament; ocular spectrum; the harmony of tints, tones, hues, and shades; how color becomes perceptible to the eye; what results from the separation of the rays of light, its decomposition and recomposition; what is meant by the absorption of certain rays and reflection of others; the difference between color and pigments used in painting; colors of the rainbow; position of primaries, secondaries, and tertiaries in nature; proportion of surface which they cover in nature and natural effects; the mental impressions made by positive and neutral colors; influence of violent contrasts or false harmony upon the eye,—information on all these points, fortified by examples which illustrate them, will enable the teacher to assist thoughtful and intelligent pupils, and lead others to think and become so.

APPLIED DESIGN.

4. APPLIED DESIGN.—In this class good examples of applied design should be placed before the pupils in the form of manufactured goods; thus, sheets of lace, paper hangings, cotton prints, specimens of carpet patterns, encaustic tiles, oilcloths, porcelain, pottery, or glass decoration—the actual objects being the most suitable for the instruction of older pupils, who are expected to produce designs in color. Illustrated catalogues of the great international exhibitions are suggestive material also, with which to teach design. Each high school should have a small collection of objects and examples in which the purest taste and ripest skill in design are displayed, as well as a library of illustrated books. Two or four designs in a year should be expected from each pupil—the full size of the objects, or the full size of the unit of repetition, if the design should be for carpets, wall-papers, &c. Designs for lace, jewelry, or subjects in which the work may be fine or delicate, are best expressed by solid color on dark backgrounds. As in all previous classes, the resources of design are the materials to be found in nature, and the type-forms of good historical ornament, the element of color being added. Avoid over-elaboration, pictorial effects, the direct imitation of nature, or redundancy of details. Teachers should study the treatment and employment of ornament in Greek, early Gothic, and some periods of the Renaissance work. Few pupils can be expected to display great originality in design any more than in other branches of education. But all will show some, if the opportunity be given to them, accompanied with sound instruction in principles and judicious encouragement. In colored designs, avoid brilliant colors; and, as a rule, the tertiaries with their tones and shades will be best for floor-decoration, the secondaries with

self-tints and small features in gold for wall-designs, with tints of the primaries for ceiling-decoration, relieved by tones of the neutrals. Bright colors should only be used in small quantities, if repose be sought for.

GENERAL REMARKS.

Teachers of drawing in high schools, whether special instructors or the regular teachers, should realize that drawing, like every other subject of an elementary and general education, should be taught in class. The subject, when advanced from the grammar to the high school, has not changed its nature or its methods, only its place and materials for study, and widened its range. The use of the blackboard to illustrate principles and methods of work, and examples of form, is indispensable to good teaching of classes in the primary and grammar schools; and the use of diagrams on paper, to illustrate light and shade and color, for the instruction of high-school classes, will be found equally indispensable to good teaching in the high schools. This involves on the part of the special and regular teachers a familiarity and skill with the use of the crayon and brush, which may not be usual, but is certainly necessary, and can be acquired as surely as the use of the chalk on blackboard has been already learnt by the majority of teachers. Special instructors in the public schools have the responsibility of setting an example in this matter to the regular teachers, and of showing them that sound knowledge of a subject may be displayed in any vehicle and in every process. Such diagrams in light and shade and color, as have been referred to in this high-school course, are not often available; for the subject in this stage of its development, and adapted to high schools, has not yet been commonly taught. It devolves upon the teachers, therefore, to make them for their classes; and they will teach the subjects better for the exercise.

EXAMPLES OF GOOD ART ESSENTIAL.

In this stage of the study, examples of a high class placed before each pupil may be as necessary for economical as well as educational reasons, as they are in the lower stages; but such examples, without the personal and vitalizing influence of the teacher drawing before his pupils, and meeting their difficulties by his example and his skill, will not be sufficient. Working without good examples is extravagant, and wasteful of time and opportunities, besides being indescribably stupid; relying upon examples ready made, without the life which comes from work before the class and the result of personal work done for the class, is worse. The true way is to make use of all that has been done in the past by others of great skill, experience, or knowledge, as material with which to help our individual efforts in teaching, but never to fall back upon that as a substitute for such efforts. Good teachers, whether young or old, must expect to spend as much time out of school in thought and work *for* their classes as they spend in school *with* their classes, and success of the highest order cannot be purchased at any cheaper rate, because it never costs less to obtain it. That this is understood and expected is shown by the small number of hours per diem that school is kept and the frequency of vacations and holidays. Teachers must work out of school as well as pupils; for without such work neither can attain self-reliance in work or economy of time in school hours; and the best teachers invariably do so.

It is presumed that pupils have learnt *how* to draw in the schools and classes below the high-school grade; and it is as unreasonable to teach elementary drawing in its lowest stages in the high school, as it would be to teach reading and writing in them. What is expected to be done here is to apply the power of drawing already acquired to the study of higher stages of the same subjects on the high-school plane, which should show as much progress in drawing as advancement in other subjects of general education. This involves higher attainments by teachers, and is, as a rule, recognized by higher emoluments for service. Though it is not practicable to apply this standard at once in schools where the scholars have had no previous preparation, or the teachers no opportunities of a higher education, it is both reasonable and practicable to do so where this has been or is the case, and where special teachers are employed; always supposing that proper examples for study are furnished, if attainable, and a suitable class-room, with fittings and lighting adapted for art study, be provided in the high school.

THE NEED AND USEFULNESS OF SPECIAL TEACHERS.

It is but just to those special teachers of drawing, who have done much towards bringing about the possibility of such a scheme as this, to define their true position in a public-school system, their false position having been fully described. (1) For some time yet the highest class in high schools must be personally taught by them. (2) Their final work in public schools will be supervision of the work of the regular teachers in all classes and examination of the pupils. (3) Normal instruction to teachers so long as it is necessary. (4) Teaching the evening drawing classes, or schools of art, as they will be eventually called.

In such legitimate and useful work there is a wide field, every large city requiring several of such trained teachers; and every city or town will find it necessary, economical, and profitable to have one such specialist in the public employment, upon whom it can rely for guidance and service. Now that drawing is so extensively taught in the public schools, it should be taught well and under competent supervision, and not be made the subject of experiment. Then schools of art are inevitable, and such schools are the true homes of the special teacher of drawing.

EPITOME OF COURSE OF INSTRUCTION FOR ALL GRADES.

PRIMARY AND INTERMEDIATE SCHOOLS.

[Two hours per week. Four lessons, half an hour each. Pupils draw on slates and blackboards; teachers, on blackboard.]

FIRST YEAR.

Subjects of lessons.—(1) Drawing from blackboard straight lines and their combinations. (2) Drawing from dictation. (3) Drawing from memory. (4) Design, or inventive drawing. One lesson in each division every week.

SECOND YEAR.

Card copies for each pupil.

Subjects of lessons.—(1) Drawing from blackboard straight lines and curves in combination. (2) Drawing from dictation. (3) Drawing from memory. (4) Design, or inventive drawing. One lesson in each division in every week.

THIRD YEAR.

Pupils draw on paper and blackboard; teachers, on blackboard.

Subjects of lessons.—(1) Free-hand from copies of straight-line forms during first half-year, and of curved forms in second half-year. (2) Drawing from dictation. (3) Drawing from memory. (4) Design, or inventive drawing.

All the classes in every year.

One-fourth of each class to draw the exercises on the blackboard at every lesson, so that each pupil shall draw on the board once a week.

GRAMMAR SCHOOLS.

[One hour and a half per week. Two lessons, three-quarters of an hour each. Pupils draw on paper and blackboard; teachers, on blackboard.]

FIRST YEAR.

Subjects of lessons.—(1) Free-hand from copies. (2) Drawing from dictation. (3) Drawing from memory. (4) Design, or inventive drawing.

SECOND YEAR.

Subjects of lessons.—(1) Free-hand from copies. (2) Drawing from dictation and design, or inventive drawing. (3) Memory drawing. (4) Models and objects from copies and objects.

THIRD YEAR.

Subjects of lessons.—(1) Free-hand from copies. (2) Dictation, memory, and design. (3) Model and object drawing from copies and solids. (4) Plane geometrical drawing with compasses.

FOURTH YEAR.

Subjects of lessons.—(1) Free-hand from copies. (2) Drawing from dictation, memory, and design, or inventive drawing. (3) Models and objects from copy and solid. (4) Plane geometrical drawing with compasses.

FIFTH YEAR.

Subjects of lessons.—(1) Free-hand from copies. (2) Dictation, memory, and design or inventive drawing. (3) Models and objects from copy and solid. (4) Plane geometrical drawing with compasses.

SIXTH YEAR.

Subjects of lessons.—(1) Free-hand analysis of ornament and plant-form. (2) Applied design for flat surfaces. (3) Model and object drawing from solids. (4) Perspective, parallel, and angular.

All the classes in every year.

Every pupil to draw upon the board once a week, to develop the power of making drawings on a large scale and in a free style. Dictation, memory, model from object, and designing exercises, are suitable for the blackboard work.

HIGH SCHOOLS.

[Two hours per week. Two lessons, one hour each. Pupils draw on paper and blackboard; teachers, on blackboard and paper.]

FIRST YEAR.

Subjects of lessons.—(1) Perspective, parallel, and angular. (2) Models and objects shaded with (*a*) point and (*b*) stump from copies. (3) Free-hand analysis of plant form and historical ornament. (4) Applied design.

SECOND YEAR.

Subjects of lessons.—(1) Perspective, angular, and oblique. (2) Models and objects shaded from solid. (3) Free-hand analysis of plant form and historical ornament. (4) Applied design.

THIRD YEAR.

Subjects of lessons.—(1) Historic ornament, in monochrome and color, from the cast and examples. (2) Light and shade, with brush, from examples, cast, and nature. (3) Color and harmony of proportions from diagrams, examples, and nature. (4) Applied design.

All the classes in every year.

Occasional exercises on the board on a scale large enough to illustrate principles, by every pupil, should form a regular portion of the practice; and, at the commencement of every new process of work or subject of instruction, the main points or new features of it should be thoroughly explained and illustrated by diagrams on the board, both by teachers and pupils.

GENERAL INFORMATION.

USE OF MECHANICAL AIDS AND TESTS.

The pupil has to be taught to draw by the unaided hand, and also by help of instruments and mechanical tests. How much must depend on the eye and hand alone, and how these may be legitimately assisted by the ruler and compasses, and not only how, but when and where, seem to be a perpetual puzzle to teachers. How and how much may a ruler be used to test a drawing? is often asked. This must to some extent be a matter of individual judgment; but, for convenience, I have stated below the manner in which the question has always been answered by me. In free-hand and model drawing, a line must always be first drawn by the free-hand alone before its length or direction can be tested. Then both these features may be tested by the ruler and measure; but corrections must invariably be made by the hand alone in sketching as well as in finishing.

So in the same way the symmetry of a symmetrical object may be tested whilst the drawing is in the sketch condition; but measurements must never be taken from the ruler, nor must a straight line ever be ruled in free-hand or model drawing.

In order to make clear the best rules for the practice of drawing, and the proper use of mchanical aids, the following regulations applying to all classes and subjects are stated:

1. WHERE NECESSARY.—In geometrical and perspective drawing by instruments, and in the practice of designing, all assistance to be derived from the use of rulers, compasses, and tracing paper, is to be allowed, and in drawing from memory or dictation of these subjects also.

2. WHERE OPTIONAL.—In drawing from dictation and memory of free-hand exercises, mechanical aids may be sometimes permitted, and in other exercises wholly disallowed, according to the option and judgment of the teacher; but practice in both manners is better than in one only.

3. **Where forbidden.**—In free-hand drawing of objects or ornament from the copy or solid no mechanical aids are permissible, the exercises being tests of the observation and manual skill of the pupils, unassisted, save by the verbal criticisms and tests applied by the teacher. Neither ruling nor measuring is to be permitted. The teacher will, however, explain the means whereby the accuracy of drawing may be tested and corrected whilst in the sketch condition, such as by the convergence of retreating parallel lines in model drawing, or the test of direction of lines, symmetry of forms, and proportion of parts in ornament before the sketch is made into a finished drawing.

These regulations are based upon the best experience of those who employ drawing and designing for practical purposes, whether in fine or industrial art, and will render a simple and clear answer to the teacher's question of, "When and how may mechanical assistance be rightly employed in teaching drawing?"

ELEMENTARY AND APPLIED DESIGN.

Some of the suggestions made concerning the first steps in design are epitomized, and placed together here, for the convenience of teachers and for reference.

ELEMENTARY DESIGN.—DESIGNING IN THE THREE GRADES OF SCHOOLS.

Primary.—In the primary schools the exercise is to learn names, and become acquainted with repetition and symmetry.

Grammar.—In the grammar schools, to apply this knowledge to the arrangement of forms, either from nature or historical ornament, and take the first steps in applied design.

High.—In the high schools, to exercise the arranging power acquired in the grammar schools by elementary design to *applied design, i. e.*, to ornament some object of use.

1. Primary.—Learn names and processes.
2. Grammar.—Learn to arrange.
3. High.—Learn to design for useful purposes.

SIMPLICITY OF ARRANGEMENT.

One of the greatest faults in the practice of elementary designing is over elaboration.

The forms used must not be too small in proportion to the ground to be covered, because this leads to confusion and loss of character in the design. There is much more beauty in the simple arrangement of good, well drawn forms, having a large proportion to the surface which has to be covered than in a profusion of complicated detail on a small scale.

The uncovered ground within a geometric form should never be more than one-third of the whole surface, the ornament occupying the remaining two-thirds.

Half-tint may be employed to distinguish the ornament from its background. Either the background may be tinted, or the ornament. Whichever covers the least surface should be in half-tint.

When there is more half-tint than white surface, the design is likely to appear heavy. The half-tint should be lighter than the outlining of the design.

Stems should be kept partly behind leaves and flowers, not appearing uninterruptedly at too great length, or they will appear obtrusive.

STEPS IN PROGRESSIVE ORDER IN MAKING AN ELEMENTARY DESIGN.

1. Select the geometric form or combined forms to be filled, and determine whether the tendency of its axis is to be in a vertical or a horizontal direction, or the treatment to be in a rosette form.
2. Select the subject of the proposed design, whether it is to be a plant form or an ornamental detail.
3. If the first, ascertain the principle of growth, whether opposite or alternate; *i. e.*, whether leaves spring from the stem in pairs opposite to one another, or singly on alternate sides of the stem, and whether the flowers grow singly or in clusters.
4. Analyze the plant; remark the character of the leaf. Draw front views and side views of leaves and flowers, to use as material for the design.
5. If a detail of ornament be selected, notice how it has been used in connection with other forms.
6. Draw by free-hand the unit of design. Trace it, and repeat it as often as is required. Line in or finish with an even, distinct line.

PRINCIPLES OF ELEMENTARY DESIGN.

1. Elementary designing is an exercise in arranging given forms, derived either from nature or historical ornament, in new and original combinations.

2. The selected forms, if natural, may be either parts of a plant or an entire plant; namely, the leaves only, or the leaves, flowers, buds, and stem, with both front and side views of leaves and flowers combined. If ornamental, the given form may be a detail of some historical style; as, the Greek anthemion, the Egyptian lotus, or the Roman acanthus.

3. If the form be natural (as, for instance, that of the passion flower), the proportional size and number of the leaves to the flower should be preserved as far as possible; if both leaves and flowers are used, the general growth of the plant should be followed.

4. Plant forms should not be copied in all their minute details and natural irregularities when used in ornamental design, but be conventionalized; *i. e.*, the general type form should be taken, omitting unimportant details or accidental peculiarities, and retaining only the broad general character and structural arrangements of the plant.

PROPOSITIONS CONCERNING DESIGN, BY OWEN JONES.

1. "Beauty of form is produced by lines growing out one from the other in gradual undulations. There are no excrescences. Nothing could be removed, and leave the design equally good or better."

2. "As in every perfect work of architecture a true proportion will be found to reign between all the members which compose it, so throughout the decorative arts every assemblage of forms should be arranged on certain definite proportions. The whole and each particular member should be a multiple of some simple unit."

3. "Harmony of form consists in the proper balancing and contrast of the straight, the angular, and the curved."

4. "In surface decoration all lines should flow out of a parent stem. Every ornament, however distant, should be traced to its branch and root."

5. "All junctions of curved lines with curved, or of curved with straight, should be tangential to each other."

6. "Flowers or other natural objects should not be used as ornament; but conventional representations founded upon them, sufficiently suggestive to convey the intended image to the mind without destroying the unity of the object they are employed to decorate. [NOTE.—Universally obeyed in the best periods of art; equally violated when art declines.]"

CERTIFICATES FOR TEACHING DRAWING AWARDED UPON EXAMINATION TO TEACHERS OF THE PUBLIC SCHOOLS FROM THE STATE NORMAL ART SCHOOL OF MASSACHUSETTS.

Courses of lessons and lectures are given to teachers at the school in Boston, and can be given in any locality by teachers of drawing who have studied in it. The sheets of drawings can be prepared and the examinations passed in each of the five normal schools of the State by arrangement with the director of the normal art school. The examinations are held annually, in the month of June.

CERTIFICATES OF THE THIRD GRADE FOR TEACHERS OF HIGH AND NORMAL SCHOOLS.

LIST OF CERTIFICATE DRAWINGS REQUIRED FOR PERMISSION TO BE EXAMINED.

INSTRUMENTAL DRAWING.—(1) A sheet of geometrical problems. (2) A sheet of perspective, including parallel, angular, and oblique problems. (3) A sheet of machine drawing, from copies or lectures. (4) A sheet of building construction, from copies or lectures.

FREE-HAND DRAWING.—(5) A sheet of model drawing, in outline, from the object. (6) A sheet of two model drawings, in crayon or pencil, shaded, from the copy and object. (7) A sheet of two model drawings, in stump, shaded from the copy and object. (8) A sheet of two model drawings, with the brush, from the copy and object. (9) A sheet of two outline drawings from natural foliage and common objects. (10) A sheet of design—one elementary and one applied. (11) A sheet of botanical analysis of a plant, applied in design. (12) A sheet of analysis of three styles of historic ornament.

EXAMINATION FOR CERTIFICATE.

The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session as follows: (1) Perspective practice; one hour. (2) Perspective theory; one hour. (3) Model drawing, shaded from solid; one hour. (4) Harmony of color; one hour. (5) Memory drawing; one hour. (6) Historical ornament; one hour. (7) Machine drawing; one hour. (8) Building construction; one hour.

CERTIFICATES OF THE SECOND GRADE, FOR TEACHERS OF GRAMMAR SCHOOLS.

LIST OF CERTIFICATE DRAWINGS FOR PERMISSION TO BE EXAMINED.

INSTRUMENTAL DRAWING.—(1) A sheet of geometrical problems. (2) A sheet of perspective problems, parallel and angular. (3) A sheet of blackboard and dictation exercises and two elementary designs.

FREE-HAND DRAWING.—(4) A sheet of model drawing, in outline, from solid. (5) A sheet of free-hand, outline of ornament, from copy. (6) A sheet of botanical analysis of a plant. (7) A sheet of historical ornament in outline. (8) A sheet of two applied designs for flat surfaces. (9) A sheet of illustrations for teaching drawing in grammar schools.

EXAMINATION FOR CERTIFICATE.

The above drawings having been submitted and approved, time examination for the completion of the certificate will be held at the end of the annual session as follows: (1) Free-hand drawing, in outline, from copy. (2) Free-hand drawing from objects. (3) Memory drawings of an original design. (4) Geometrical drawing. (5) Perspective drawing. (6) Historical ornament.

Forty-five minutes given for each subject.

CERTIFICATES OF THE FIRST GRADE, FOR TEACHERS OF PRIMARY AND INTERMEDIATE SCHOOLS.

LIST OF CERTIFICATE DRAWINGS FOR PERMISSION TO BE EXAMINED.

INSTRUMENTAL DRAWING.—(1) A sheet of geometrical definitions, plane and solid. (2) A sheet of blackboard and dictation exercises and elementary designs.

FREE-HAND DRAWING.—(3) A sheet of free-hand outline ornament from copy. (4) A sheet of model drawing from solid. (5) A sheet of illustrations for a course of primary school exercises for teaching drawing. (6) A sheet of botanical analysis and historic ornament.

EXAMINATION FOR CERTIFICATE.

The above drawings having been submitted and approved, time examinations for the completion of the certificate will be held at the end of the annual session as follows: (1) Free-hand drawing, in outline, from copy. (2) Free-hand drawing from objects. (3) Memory drawing of an original design. (4) Dictation drawing. (5) Geometrical drawing. (6) Historical ornament.

Thirty minutes given for each subject.

IN ALL THE GRADES.

One sheet of drawings will be retained by the school from each set of those presented for certificates of the first, second, and third grades; and this sheet is to be duplicated by the student. The drawings are to be made on half imperial sheets of paper, or mounted on that size (15 inches by 12½ inches); and the short edge of the paper is to be uppermost. Every sheet to be headed and numbered, according to grade, number, and subject, in printed characters, signed and dated, with the name of the school where the teacher is employed. Accepted works will be initialled by the director of the normal art school when approved.

IV.—THREE LECTURES TO BOSTON TEACHERS, BY WALTER SMITH, DIRECTOR OF DRAWING.*

INTRODUCTION.

The following lectures delivered by Professor Smith, while "director of drawing in Boston," to the teachers of each of the three several grades of the public schools of the city, were "printed for the use of the students in the Massachusetts State Normal Art School."

As they are in no wise limited in their application to the particular audiences to whom they were first addressed, but embody direct practical instruction to teachers by the highest authority on this topic, and are for that reason of great value to all who propose to teach elementary drawing, either in public or private schools, I desired to include them in the appendix to this report; this, as the foot note shows, the author, who holds the copyright, and who is now at the head of the art department of the new Technical College at Bradford, England, kindly permits:†

FIRST LECTURE; DRAWING IN THE PRIMARY SCHOOLS.

[Addressed to teachers of primary schools only. Delivered in 1881, in the hall of the Girls' High School.]

Mr. C. C. Perkins, chairman of the meeting, briefly addressed the teachers, and in closing introduced the Director of Drawing, who spoke as follows:

LADIES AND GENTLEMEN, FELLOW-TEACHERS:

It is now ten years since the industrial drawing act of this State of Massachusetts was passed by the legislature, approved by the governor, and became law.

By it the educational and industrial value of drawing was recognized. The place assigned to it was that of an element in general education on the plane of reading, writing, and arithmetic—not an optional, but a required study, and to instruction in which every child in Massachusetts, whether to the manor born or the stranger within her gates, has an inalienable right.

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* "Lectures upon Drawing in the three grades of Primary, Grammar, and High Schools of the City of Boston. Addressed to the teachers of the several grades, by Walter Smith, Art Master, London, England; Director of drawing in Boston, 1871 to 1881; Principal of the Normal Art School of Massachusetts; and State Director of Art Education in Massachusetts. Boston: Rand, Avery & Co., Printers to the Commonwealth, 117 Franklin street. 1882. pp. 58."

†HOLLIN CLOSE HALL,
Bolton, near Bradford, Yorkshire, England.

Colonel CLARKE,
Bureau of Education, Washington, D. C.:

MARCH 14, 1884.

MY DEAR SIR: In response to your application, I hereby give you permission to re-issue my three lectures on drawing to the Boston teachers as part of your report on drawing in the United States.

Yours, faithfully,

WALTER SMITH,
Art Director Technical College, Bradford, Yorkshire, England.

It is nearly ten years since the city of Boston, following her instincts of obedience to the law, and taking her claimed position as a leader in the van of educational progress, seriously set to work to accomplish what this law required.

What has been done, with this object in view, by city and by State, during the past ten years, is not altogether unimportant in the history of education here; but as both you and I have taken part in this period of educational development, and are therefore familiar with its features, though we can hardly be considered judges of its character, there is no need for dwelling at length upon details of the past.

But it may not be unprofitable to us, remembering the purpose for which we are assembled here to-day, if, after these ten years of our joint labors, I should briefly summarize some of the purposes we have kept in view and the results of experience we have acquired.

As I am not privileged to address such a gathering of teachers as this very frequently in the city of Boston, and am fully aware of the valuable opportunity placed at my disposal now, I shall economize the time you give me by becoming brevity of introductory remarks, and devote myself chiefly to the task of making practical suggestions.

I see before me in this audience the faces of many who, nearly ten years ago, commenced with me, in those crowded and splendid classes in Appleton street, the practical study of drawing, and of some who, since that time, have passed to their present positions through the normal school, where they have been under my personal instruction. It is pleasant, after this relationship, to address you now as colleagues, and to bespeak your attention and patience for what I shall have to say on that ground.

You know that, though the teaching of industrial drawing in common schools was not a novelty in other countries, yet ten years ago it was regarded here as being in the nature of an experiment; and besides having to encounter the serious dead weight of popular ignorance of the subject, its successful teaching involved the qualification of all the public school teachers, young and old, by practice and study in a new subject, to give the instruction to pupils in the schools.

Great as was the diffidence many teachers felt and expressed in their ability to master the subject and to teach it, of their willingness to learn there was ample evidence by the attendance at the classes established for their instruction. The best proof of this is, that, out of one thousand and forty-five teachers employed last year in the public schools of Boston, only five had never attended normal instruction in drawing; and, out of one hundred and seventy-three schools, there were only three in which the teachers had passed no personal examination in drawing.

Such a record as that is creditable alike to the city which has provided the instruction, and to the teachers who have attended upon it.

Occasional exhibitions of class work, produced under the instruction of the regular teachers, by the pupils of the schools, and their exercises at the annual or semiannual examinations, show to demonstration that the personal study of drawing by the teachers has borne excellent fruits, and that, as a body, however various by comparison may be the attainments of individuals, the teachers of the public schools of Boston can teach drawing well.

I know that many of you do not think so, and this modesty is very becoming and delightful; but you must pardon me for saying that you are not always the best judges of your own work in every department.

Probably every teacher here present has one or more pet subjects which she can teach splendidly, and, by comparison, thinks her teaching of drawing is a failure; and so, perhaps, of some other subjects. But that does not settle the question. There is, perhaps, a very natural and human danger that the subjects which are delightful to the teacher, and in which she has much skill, will be overtaught to the pupils; and that is as much to be regretted as that there should be any subjects in which the pupils are undertaught, through the absence of confidence in her own abilities, on the teacher's part. Yet I will assert further that no teacher, to whose qualification to give instruction in the schools competent and impartial authorities have borne testimony, and who, on strength of that testimony, has tried to do the best she could for her pupils, whatever may be her own opinion about it—no such teacher *has* failed of success in teaching, nor, as long as she loves her work and does her duty, can she ever fail.

I say this, not from any desire either to compliment or to comfort you, but because I honestly think that in this matter I am better able to judge than you are, from the stand-point of a specialist, and with the experience of a laborious lifetime wholly devoted to this subject.

There is another reason why teachers are sometimes suspicious of their own want of success in teaching drawing, when really there are no grounds for suspicion. The work to be done in drawing in the public schools, in order to be successfully and economically done, must be graded for the three grades of primary, grammar, and high schools; and, in order to be progressive, no one of the three stages will tell the whole story, or be complete in itself.

Those engaged in teaching one of the stages are not always sure that their work is the best for that stage; and unless they are familiar with the subject in all its stages, and see the relationship of one to the other, they are apt to consider their own work incomplete.

Yet it is not so necessarily. A teacher who would not be qualified to give instruction in drawing in high schools may be admirably qualified to do the work required in the primary schools, because the kind of work needed in one place is entirely out of place in the other.

To be able to judge the value of the work done and to be done in one grade of school, accurately and impartially, one must be familiar with and experienced in the subject and the processes of instruction in every grade of school, from the beginning to the end of school life; and that is something which no teacher, teaching only in one grade of the schools, and in but one class of that grade, can ever be expected to arrive at.

WORK OF THE TEACHERS COMMENDED.

If it had not been my experience and occupation at different times to give instruction in all stages of the subject and in all grades of schools, from the lowest primary class to the graduating class of a normal art school, I should not presume to offer you an opinion on this matter, and ask you to accept it as practical and trustworthy. But having patiently gone through this experience as a teacher, and been employed to supervise and examine the work of other teachers in all these subjects and grades, I claim to be able to form a competent opinion upon the work now being done in the public schools of this city, in the subject of drawing, by the regular teachers of all grades of schools; and I ask you therefore to accept my opinion when I repeat that in every grade of school in this city the regular teachers are now eminently successful in teaching the subject of drawing. It seems to me to be my duty to state this much, and to do it very deliberately, before proceeding to the practical part of my address, both because you are entitled to it, and it will serve to explain why I have been asked to speak to you to-day. It is not because of any dissatisfaction with the work done in primary schools, nor for the purpose of suggesting any change in subjects or methods of instruction in them, but, on the contrary, to inform you that our progress is satisfactory, and to bring before your notice suggestions derived from observation of that progress, so that our advancement may be continuous, and our experience may be harvested.

I am to speak more especially on the course of instruction in the primary schools during the present half year. But as with one exception, and that the substitution of blank books for printed books in classes 1 and 2, there is no change or alteration of work to be noticed, my suggestions will apply to the future as well as to the present, and as the work to be done in the third year, or classes 1 and 2 of primary schools, is but a repetition on paper of what has already been done upon slates in the first and second year, or classes 6, 5, 4, and 3, the same general observations will apply in all the classes.

THE WORK DEFINED.

Let us then see, first of all, what is the nature and object of industrial drawing in the public schools, and afterwards consider the part and stage of it which we have to provide for in primary schools.

Drawing, the ability first to see and then to express visibly the form, color, and character of created things, and, as a result of this ability, to devise and display original adaptations or arrangements which are the work of our imaginations, has an educational value apart from its industrial or commercial value.

It teaches us to see things, as distinct from looking at them, and gives us a language to express ourselves in, which is also capable of being made the test of true vision. The eye and the hand, the senses of sight and touch, are together equal to two-fifths of the soul's means of communication with the outer world. Their training and discipline, therefore, is not an unimportant part of that which we call education—an exercise and stimulation of natural human faculties which require and await development in order to insure happy and profitable life.

It is because of the economic value in practical life of an observant and sensitive eye, and the usefulness to industry of that which is called a skilled hand, together with the great demand for skilled labor which now exists, and the creativeness and productiveness which that skill represents, that we have become accustomed to speak of the drawing we teach as *industrial* drawing, chiefly because of its preëminent value in the productive industries. But we might as well speak of the arithmetic we teach as industrial arithmetic, to guard ourselves from the suspicion of being engaged in the education of mathematicians; or describe instruction in writing as commercial penmanship, for fear the writing we teach may be used by an author or a statesman.

DRAWING IS THE SAME, WHATEVER ITS APPLICATION.

Drawing is drawing, for whatever use it may be employed in the future; and it is because its educational use and practical value apply to all, that we justify it as a common element in practical education for our public schools.

It may help the mechanic to become a better workman, the professional man to devise or understand great constructive projects, and the general public to know and appreciate the true and the beautiful in nature and art.

But whether one, or neither, or all of these happen, is the concern of individuals the work we have to do is to make it possible that all results may occur which can be expected to arise from a general diffusion of the common language of art.

Experience has proved that this alone can be done by systematically teaching the elements and grammar of this language in the same way and by the same means as we teach other branches of a common school education, giving to each grade of school its own allotted work, and waiting patiently in this, as in all things, for the harvest which this seed-time may bring forth.

There is one phase of this work to be done in the primary schools, and that is by far the most important of all, for it affects all that follows it; another kind in the grammar and high schools, which develops the seed that has been planted; and lastly by practical life in the workshop, the office, or the world, which tests all this work as if by fire.

THE SPECIAL WORK OF THE PRIMARY SCHOOLS.

Our share of this work in the primary schools, then, is to prepare the pupils for their further and future practice in drawing by teaching them the alphabet and vocabulary of the languago of form, and to accustom them to speak this language intelligently, whether by the tongue in form of words, or by the hand in shape of drawings, or by both name and shape uttered concurrently, as the most complete illustration of accurate knowledge, so far as ideas are concerned; and let it be never forgotten that ideas must precede skill.

To secure this concurrent use of word language and form language by the pupils, it would be profitable that at least one-fourth of the time devoted to drawing in primary schools should be spent by the pupils in drawing upon the blackboard answers to oral questions put by the teacher, the lips of the pupils being sometimes sealed. Thus the teacher asks, "What is a square?" and the answer, not a word being uttered, is a drawing on blackboard or slate by each pupil, of the form, or a family likeness of the form, of a square.

Reversing this process, suppose the teacher to become temporarily dumb, and the tongues of the pupils simultaneously untied. The teacher to draw on the blackboard a succession of simple forms, and the pupils' tasks to be the naming of them as fast as drawn.

This barter and interchange of the thought and the thing is education, productive of, though of infinitely greater importance than, what is called manual skill.

CONSTANT USE OF THE BLACKBOARD IN ALL TEACHING RECOMMENDED.

I earnestly commend to teachers the use of the blackboard and of drawing, to illustrate every subject they teach in primary schools, both by themselves and their pupils. Its value is altogether independent of artistic work, for blackboard illustrations can never be anything but diagrams, and diagrams may teach principles, even when they are exaggerations, awakening thought and fixing ideas which are the very foundation of knowledge.

It has been said that "the blackboard is to *teaching* what steam is to transportation." Believing this to be true, and having witnessed its absolute truth in the matter of drawing, I would suggest that no lesson be ever given in this subject without full and generous use of the board by the teacher or the pupils, or by both.

In order to accomplish our work successfully, it is necessary to keep distinctly in view the objects we are striving for, and appreciate clearly the principles to be adhered to in securing them. Details of class management, or the adaptation of means to end, or the meeting of special difficulties and the individual failings of pupils, is the teacher's own work, with which no one should interfere, and about which little help can be given. But in the statement and consideration of general principles and objects to be secured, we may be of use to one another; and that is what seems tc me to be now the most valuable use of our time.

WHAT PRIMARY SCHOOL PUPILS OUGHT TO KNOW OF DRAWING.

Here, then, is a general statement of what should be expected from pupils in primary schools, in this matter of drawing; therefore, what the teachers should seek to develop and secure:

1. A knowledge of the alphabet and vocabulary of simple and regular form.

2. The power to draw such forms readily and with some precision, from the copy, from oral or verbal description, and from memory, and to be able to test the accuracy of their work by mechanical means.
3. To be able to analyze to some extent irregular forms, by comparison with the regular, and to draw the simpler examples.
4. To practise the arrangement of simple forms in new and orderly combinations.

Without at present going into details, it seems reasonable to expect so much from even little children, always supposing that they are made interested and happy in their work, that the standard of their attainments be not fixed too high, that information and thought be looked upon as the main things to be imparted and developed, and that manual skill be left to take care of itself.

MANUAL SKILL NOT ESSENTIAL.

I wish to make this statement about the unimportance of manual skill in little children as emphatic as possible, because so much mischief has arisen and harm done to education in drawing by an overestimate of its importance. Misled by this phantom which expects fifty-year-old skill in five-year-old bodies, and finding it not, teachers often misjudge their own excellent work, and think they have accomplished nothing. This is a serious educational mistake. The true test of success is the awakening of interest in the mind of the child about the forms and nature of the objects he sees around him, and the desire to express that interest by means of a drawing, if called upon to show what he knows about a certain object named. To secure this resort to illustration by the child it must be practised by the teacher, and then comes in the value of the blackboard and drawing as an agent. It is not wise for a teacher to say that she is not skilled enough in drawing to illustrate on the board, for that is putting the cart before the horse. She should illustrate on the board *in order* to become skilled in drawing, if she is not so already. Do not refuse to go into the water until you know how to swim, but go there to learn.

In the schools of Quincy I have seen both teachers and pupils drawing on the board and on slates illustrations to stories and object lessons, without apparently waiting to consider whether they could draw at all, or that drawing had anything to do with the business in hand; which in one case was to show a wagon loaded with hay, drawn by four horses, the driver, whip in hand and holding the reins, being seated upon the load of hay. The boy who drew that was intensely interested and happy in his work. He was growing all the time; he was left to himself, and not worried by superior knowledge, and was learning, a good deal faster than text-books or teacher could have taught him, how to settle in his own mind, and display to the world, the problem of "What I know about a wagon and horses." Memory of his difficulties in making that picture was going to make him look at, and not only look at but see, a good many wagons as they passed him in the streets, or appeared in illustrated books or pictures; and that was a mental result and good education, which was not hindered by a certain look of antiquity about his wagon, or the strong family likeness among his four horses.

So let me urge that in addition to the work in drawing stated on the programme, and occasionally as a substitute for it, teachers should kindle a love and enthusiasm in their classes by giving the pupils full scope in a pictorial direction, and on favorite subjects to be chosen by the pupils themselves.

Let me remind you, also, that we must no more expect uniformity of results from the instruction of a class of various pupils, than we should expect to find an agreement about politics or religion in a community of adults.

HEREDITY.

There is a good deal of difference between the size and thickness of skulls among children as well as among grown-up people, and as much difference between their antecedents and ancestors for a few hundreds of years. You cannot breed out of people in a year or two what it has taken twenty or thirty centuries to breed into them.

Slow children can be helped, but they do not need to be hurried; for it is often with them, as in mechanics, that what is lost in speed is gained in power, and that, if the speed be unnaturally increased in emulation of a lighter kind of machine, the tackling may give way, and both speed and power be destroyed.

We must not expect great improvement to occur very suddenly, nor is it a healthy sign; for gradual and rather slow growth, in which is assimilated the nourishment supplied, makes better and safer progress. You cannot extemporize either sound knowledge or cunning skill; there is no specific, nor recipe, nor royal road, nor short cut, by which you can abolish the influence of time on the maturing and healthy development of a human faculty.

Have patience with your pupils, and have patience with yourselves; for, as the beloved Physician said, "in your patience possess ye your souls."

THE LESSONS.

You know that upon the programme there are to be given four exercises every week, and in the following order:

1. Enlarging from card copies.
2. Reducing from copy on blackboard.
3. Drawing geometric definitions.
4. Dictation, memory, or design.

About each of these exercises I propose to make some suggestions, which I hope may be of some use to you, illustrated by the light of your own experience.

1. *Enlarging from card copies, and the simplest examples.*—Whether drawing upon slates or paper, it is intended that the pupils should make as large drawings as the limits of their spaces to draw upon will allow. Large drawings will always be much more improving than small ones, and take no longer time to make, whilst they are much more easily corrected.

Though a card may be placed in the hands of each pupil, thus furnishing the idea of what is to be done, it does not give any information as to the order of the steps to be taken in doing the work. The whole exercise, therefore, from the first step to the last, should be drawn upon a large scale upon the blackboard by the teacher, as a guide, occasional reference only being made to the cards.

There are seventy examples on the first series and fifty on the second series of cards; and each teacher should select from them only such subjects as her pupils can, without hurry, begin and finish in a lesson. For this reason, it is stated that only the simpler copies should be taken. Other examples will be found in the Manual, with which to vary the lessons, when the second exercise comes, viz:

2. *Drawing from the blackboard.*—Here also may be used such examples as the teacher may find useful, either from the cards or manual, or of her own design, or selected from any other source. It is valuable to have the copy, about to be drawn, placed already on the board in its completed form, before commencing the lesson, so as to show very clearly to all what is going to be done. But, in drawing it before the pupils whilst the lesson is in progress, the class must be kept together as much as possible. To facilitate this, and to show the steps to be taken, it is useful also to have the diagram illustrated by three or four stages, beginning with the position and division of the first line. As that is done, upon slates or paper, the first stage to be erased from the board, and the second be begun; and so on until, the whole of the form being sketched, the work is to be completed from the finished example.

How much correction of the pupil's work is advisable? I am often asked. About that there is no hard and fast rule. It is well to correct one imperfection in the work of each pupil, if it should be apparent, but not more than one; and very often it is well not to make any corrections at all on the exercise, but be content with directing the attention of the pupil to an obvious error, and say nothing about other imperfections. Thus recognize the principle that imperfect work is the consequence of imperfect thought, and, where you find that to be displayed, try to correct the imperfect thought in the child's mind, and the corrected thought will then dispose of the incorrect work. Never be troubled about always setting right with your own hand the untrue drawing on slate or paper, for that is only a symptom of the disease. Strike at the root of the disease in the thought system, for thus only can it be cured. This of course cannot be done by one effort, either of teacher or pupil; but it makes a good deal of difference whether, by your method of teaching, the pupil is learning to draw, or only to make *drawings;* just as, in learning a modern language, we want to learn to speak, rather than to make certain speeches.

Though I begin to despair of ever being understood on the question of where ruling and measuring and mechanical tests are permissible, and where objectionable, I shall continue to struggle with the subject.

There is a proper place and a right time for both mechanical and free-hand work in drawing. Sometimes it is better that they should be quite distinct, and sometimes and on some subjects both may be employed in the same exercise. In the primary schools I would make this distinction. For the free-hand work, in which there should be no ruling nor measuring, the first two exercises in each week, viz, drawing from the cards and blackboard, and drawing from the blackboard alone.

In drawing from dictation and memory, it may be left to the teacher's option whether all shall be done by free-hand alone, or by ruling and measuring alone, when the subject is composed of straight lines; or partly ruled, as, for instance, the construction lines, and partly drawn by free-hand, such as the curves.

In these exercises the whole class should work in one way, and the teacher decide which way, so as not to have some pupils ruling and measuring, and some drawing wholly by free-hand.

The same option of the teacher may be extended to drawing of geometric definitions, and in the designing or arranging exercises all the mechanical means may be employed which are available, or that the pupils can use. It will simplify matters, therefore, if we say that, for one-half of the work, viz, the first two exercises in each week, as stated on the programme, ruling and measuring are prohibited, and for the third and fourth, or all the rest, it is optional with the teacher how the work shall be done, with a recommendation towards variety.

The next exercise calling for some remark is—

3. *Drawing geometric definitions.*—These exercises, which may be given either by the pupils copying blackboard illustrations, or from dictation, are of considerable importance, because they economize time in teaching and learning the other subjects, and are a definite contribution to that alphabet and vocabulary of the language of form, which I have described as being one of the principal objects of teaching drawing in the primary schools.

If these illustrations to the definitions be grouped together in the exercises, so that the distinct features of each may be made the more obvious by comparison with the rest, they may thus be taught quickly, and are not without interest.

Thus beginning with

LINES.

First illustration: A right line.
Second illustration: A right line vertical.
Third illustration: A right line horizontal.
Fourth illustration: Two lines parallel.

ANGLES.

First example: Any angle.
Second example: A right angle.
Third example: An obtuse angle.
Fourth example: An acute angle.

So with triangles, four-sided figures, polygons, and the circle; and so on, with lines dividing figures, as diameters and diagonals, and thus explain, by drawing and having them drawn, all the terms and expressions and names which are made use of in teaching drawing.

These are not exercises to be dwelt upon for a long time, because of their interest, but should be practised as often as once a week, because of their use. They are specially adapted for the pupils to practise upon the blackboard with chalk, and on a large scale, either from dictation or memory.

If, after drawing rectangles, the pupils be allowed to convert them into houses, showing doors, windows, and chimneys, there will be some fun in the work; or they might be allowed to follow M. Regamey's illustration of the geometric basis of art, by transforming any regular or irregular geometric shape into the likeness of any animal or natural form to which it is most like.

4. *Linear designing—memory and dictation.*—The last exercise in each week is to be either in designing, memory drawing, or drawing from dictation, in sequence, every third week, so that one exercise of each kind shall come every three weeks.

Of the exercises in dictation and from memory there is hardly need to say much, for teachers have had sufficient experience in both processes to know how much can be done by their pupils, how the subjects are to be handled, and what is to be sought for in either.

There is one feature of teaching a class to draw from dictation which seems to me valuable, viz. that it enforces attention and thus helps to form the habit. The words in which the exercise is dictated should be composed and written by the teacher, so as to be certain that the forms to be drawn are fully described in the clearest language and in the fewest words, and when the lesson is given be read to the class. Fuller oral description should also be given in support of this; but it is not wise to trust wholly to the suggestions of the moment for words or language of so great importance and consequence as those used in dictating a drawing lesson.

In primary schools, only examples containing straight lines and simple curves—or of compound curves, such as the ogee, made of two simple curves—should be given for dictation.

The work under the name designing would be more properly described as arranging, and I have already referred to it as "practising the arrangement of simple forms in new and orderly combinations," and also as "learning to arrange." Much of this must needs be done under the detailed direction of the teacher, who should decide upon both the form to be filled and the detail which is to be used in filling it.

Again, the inclosing form having been given, and divided into equal parts, it may be left entirely to the pupil to draw whatever may suggest itself to him in one division; the only condition being that whatever is placed in one shall be repeated as nearly as possible in all the others. It is a matter of little consequence what the unit of repetition is, for the real object of the exercise is to practise orderly arrangement more than to make an original design.

On a broad average, however, you will get rather more startling originality from an average class than you know what to do with.

The kindergarten process of arranging colored sticks to form patterns is much the same as the designing to be followed in primary schools—to give an outlet for ingenuity and love of change and the creativeness which we all have, but never so strongly as children have it.

Avoid giving much instruction about design. Let the children do as well or as badly as they like, and let them make their little attempts on slates first, even when they may have to draw their finished work on paper, so as to give them perfect freedom to experiment, to change their minds, to obliterate and begin over again, and wrestle with their subjects and with themselves.

I regard this exercise more as an amusement or recreation than anything else; but it is a constructive one, and will help to counteract to some extent that other recreation which comes better under the head of destructiveness or disarrangement, which children sometimes patronize.

In classes 1 and 2 the work for the present half-year is to be in blank books instead of in printed books, in this matter reverting back to our practice previous to last year.

A clause in the recently issued plan of instruction modifies a paragraph in the directions printed on the cover of the blank book. This paragraph says that the blank book of twenty pages is intended for forty exercises; but considering that there will necessarily be some time required for arranging the exercises on the pages, when guide lines and points are *not* given, it has been thought advisable to leave for each individual teacher's decision whether one exercise or two shall be worked on each page of the books.

If only one exercise be drawn on a page, that will give an average of three lessons to each exercise, which will be ample time.

Let me recommend also, that one-fourth of the time devoted to drawing, even in the first and second classes, should be spent at the blackboard by every pupil.

Also, that the diagrams drawn upon the board by the teachers for the free-hand exercises should be on a large scale, with a central line of 2 feet 6 inches or a yard in length, so that all the pupils may see the example clearly.

You will find in the manual, and upon the cards, a choice of examples for copies, with the exception of dictation exercises; and these, it is considered, are best left to the skill of the teacher.

I have been asked by the drawing committee to suggest a course of examples upon the adopted programme, selected from the manual, in order that those who may find it difficult to determine which examples are best may be assisted in their choice.

These have been drawn in a book, proportioned in size to the blank book, and occurring in regular sequence.

In this book two exercises are drawn on a page, for the convenience of those who may wish, or whose classes are able, to draw as many; but where, on the contrary, only one exercise is drawn, then I would recommend that the first half of this book be used to fill the blank book.

In conclusion, I now desire to remind you that we may reasonably expect to do as much for this subject in primary schools as is done for other subjects; that we ought not to try to do more, and should be content with no less.

In the opinion of competent judges, we are doing as much, though we are open to as much overhauling in this subject, as in others. There may be lacking some enthusiasm in our manner and methods of handling the subject; and I am prepared for such a criticism, for it has often been seriously objected, in the past, that we have thought too much about it as a subject of instruction, whilst it was yet a comparative novelty.

As this novelty wears off let us hope that we shall gain in maturity what we lose in excitement, and that those who come after us may be benefited by our pioneer experience.

They may improve upon what we have done, and they ought to do so, to repay us for what we have done for them; but no future generation either of teachers or of the public, on this continent, can ever rob us of this historical achievement, that we have for the first time demonstrated to an unbelieving generation, that all human creatures are as much born artists, as that they are born to be inheritors of the kingdom of heaven. Education and religion are responsible for the rest.

SECOND LECTURE; DRAWING IN THE GRAMMAR SCHOOLS.

[Addressed to teachers of grammar schools only, delivered in 1881, in the Girls' High School.]

It is pleasant, after nearly ten years of co-operation, to meet upon a plane on which there is no need to discuss the question whether it is possible that all children can learn to draw, or whether the regular teachers of the public schools can both learn and teach the subject. We have established the affirmative of those propositions long since, and in the teeth of a hostile and unbelieving generation; which, however, has been so far not indifferent to our progress, that it has graciously humored us whilst we have been trying the experiment.

And, in consequence, we are here to-day to consider the next step in advance, which is, how best to teach the subject, conserving the progress made, and under circumstances which will test that progress.

It is also true that much has been done during the past decade to set people thinking about the practical value of drawing in education and in industry, and to attract the interested attention of sound and skilful educators in the subject; yet it may with equal truth be said, that we have hardly yet touched the hem of the garment of this subject economically, whilst educationally our feet are scarcely upon the threshold of its temple.

Sternly practical people and nations are beginning to recognize the economic value in labor and life of an element not controlled by mere force, but controlling and directing it; and are calling upon their educators to provide for and produce that element, and set it at work, much as the prophets of old called upon their gods for the divine fire that was to burn up the sacrifices upon their altars.

But you cannot extemporize experience—and that which we possess now has cost us ten years to acquire—without help or guidance from any external sources; so that although we have only made a beginning, trifling, perhaps, in comparison with the half-century's application of kindred people, and not yet so fruitful as the two centuries of effort made by the most artistic nation in the world, it is something to have begun seriously, and to have begun right.

Our progress has been somewhat hindered by the existence and healthy activity of sundry and manifold educational myths and delusions, from which other branches of learning have been delivered by the sanitary and winnowing and deodorizing operation of time. If we had done nothing more than to test common beliefs about drawing, to clear the track of obstructions made by ignorance, to prepare the way and make straight in the desert a highway for coming generations, then, and even then, the work done would be important and valuable, because of its initial character, for the first steps in a journey are of as much importance as the last.

I need not impress upon descendants of the Pilgrim Fathers, that the path of pioneers is always a hard road to travel, *for them,* whatever it may be for those who come after; and that is the path which you and I have been called upon to tread.

We are not at the end of it yet, though we may have made and set up certain landmarks, and milestones, and finger-posts on the road; and so it is well that we should, as now, occasionally meet together on a prospecting consultation for mutual encouragement, and to insure an economical division of the work to be done.

The subject which has brought us together on this occasion was communicated to me in the following words:

"Jan. 22, 1881, in drawing committee—

"*Voted*, That the director of drawing be requested to address the primary and grammar school teachers on 'Authorized methods of instruction in drawing,' and give them such counsel as they may require in the work of their respective grades."

That, then, is the object of our meeting to-day; and an order to confine myself to the subject, and to cover the ground as well, I have, as some of you know, asked by circular the principals of all the grammar schools in the city to suggest to me the questions they may wish to have answered, and the topics upon which they or their teachers may require counsel. I have to thank several masters for replies, and shall give to the questions they have propounded the answers I am authorized to give by the drawing committee. This has seemed to me the most economical use of our time to-day, especially as our time is that of hundreds of persons: rather than that our meeting should resolve itself and degenerate into a discussion upon a few points, about which there ought to be great latitude of opinion among broad and healthy teachers.

If, therefore, I should omit reference to any special topic which you expected to hear about, you will at least give me credit for being anxious to know it from you beforehand, and thus to give it the benefit of deliberate consideration.

When I said just now that we were hardly yet on the threshold of this subject, the remark had reference more particularly to the whole subject of art education, as an element in professional, commercial, and industrial education and training; and not so much to that part of the whole subject which includes drawing in the public schools, which is, though of some importance to us, indeed but a very limited portion of the matter.

This undeveloped condition of a by no means insignificant department of human thought and activity—one so important, indeed, that it is capable of affecting national reputation and national prosperity (as it does to-day in the case of France and England) — is to be accounted for by the repelling influence of the mystery which has surrounded it in the past. This mystery, and the intellectual grasp which has been required to penetrate and dispel it, have made the subject somewhat unattractive to minds of the first order; or, if not wholly unattractive, there have been other fields so much more inviting and profitable, involving for their study and mastery a more circumscribed range of attainments and a more genial companionship in study, that the thinkers and workers in the general field of education have let this art department of it very much alone.

LACK OF ANY LITERATURE OF ART EDUCATION.

There is to-day no literature of art education; nor are there (with the exception of those in the department of architecture) any good text-books of the subject. Here and there a specialist has published his views about a detail or branch of practice, a mere thread of the whole woven fabric; but, up to the present time, no man or woman who can be faithfully described as thinker, artist, teacher, economist, has yet devoted the experience and maturity of a lifetime to the study and exposition of education in art. General education, letters, law, medicine, theology, trade, science, war, government, and even agriculture, have their literature and text-books; and each has leaders among men and women who are competent by professional knowledge and education, experience in detail, and practical acquaintance with the whole subject, to generalize sound principles from the varied experience of individuals and of nations. This is true in a limited degree also in the field of applied art, or of departments of it, like architecture or sculpture; but it is *not* true about *art education*, theoretical and practical, for economic, industrial, and artistic purposes.

By this absence of the highest form of matured authority, viz., a literature of the subject, and leaders among men, we are placed at a great disadvantage, both in our study of it as a whole, and in our means of understanding the precise value and character of any department in it, in which we may be personally engaged.

For this reason we can consult no authorities, living or dead, and are left to pick our way, as best we can, from observations made as we go along, warned by failures and encouraged by what seems success, to be content to make our own precedents, and hew as near the line as we can plainly see it, dim and faint though it be. That is all we can do at present, until a mind of the first order—comprehensive, profound, and practical—having the student's habit, the teacher's instinct, and the economist's common sense, shall come forward and lead us. May his advent be near, that we may be able to sing the *Nunc Dimittis* together before we make our final exodus!

This slight introduction seemed to me to be necessary before we could modestly consider the first part of the subject, *"Authorized methods of instruction,"* for we must, in default of better, be our own authority, jugde, jury, plaintiff, defendant, counsel, and witnesses, all combined.

THE PROBLEM TO BE SOLVED.

Let us, then, consider briefly what we have had to do, and how much we have already done in this matter, before we come to a reasonable conclusion about the nature and character of the work which we can best do in the present and immediate future. And let us also not forget that we are considering the application to a subject of instruction of the *general principles* of education, not inventing specifics, nor debating various modes of teaching, but considering "authorized methods of instruction" in drawing, in this city of Boston, and to-day.

The industrial drawing act of 1870 required that the subject should be taught in the public schools, and placed it among the elements of a general education, to instruction in which every child attending the public schools had a right. It *might* have been grouped among the optional studies, or required to be taught in the high schools only. But if you are interested enough in the matter to examine the chapter of the general statutes, amended by the act of 1870, you will see that the subjects of instruction, among which drawing is grouped, are reading, writing, and arithmetic—not optional, but required; not for the benefit of a few, but for the education of all.

This involved two very important changes; viz., a change in the subject as then understood, and a change of teachers who taught it. The character of drawing as taught in the schools up to that time was such that it seemed only the gifted few could learn it, and only the teacher who had corresponding gifts could teach it. It was not, therefore, a general educational subject.

Here, however, we were confronted with a law which entirely ignored the whole theory of gifts, whether in teachers or the taught; and, to make the matter emphatic, it concluded with the gently insinuating words, "This act shall take effect on its passage." "Approved May 16, 1870."

The only persons who could carry out such a law were the regular teachers of the public schools; for at that time there were not special instructors enough in the whole country to teach the subject to all the children in the State of Massachusetts; and the only way in which the regular teachers could ever be expected to teach it was by simplifying the subject so that it might easily be understood and practised by both, all teachers and all children.

That was the task intrusted to our hands in 1871, just ten years ago, and we have done it.

HOW IT WAS DONE.

The principle underlying our plan was, that whatever it could be considered reasonable for children to learn, it might be considered reasonable for the teachers to learn and to teach. The normal classes, which were at once commenced, were a recognition of this principle, and established its truth.

The chief corner-stone of our whole fabric was the use of the blackboard; and as the superintendent has said, "The blackboard is to teaching, what steam is to transportation," we brought into use a very powerful instrument for our work.

You will most of you remember that the subjects studied during the first year, 1871–72, were free-hand drawing of ornament from the board, showing only the two dimensions, length and breadth; model and object drawing, from the board and from the solid model, giving the three dimensions, length, breadth, and thickness; and memory and dictation drawing.

The next year, 1872–'73, we took up geometrical drawing and perspective, both taught from the board; and in the following year, 1873–'4, we introduced elementary design.

For several years afterwards, until, in fact, every teacher who intended to study the subjects had ample opportunities for doing so, these elementary classes were maintained; and last year I was enabled to report that, out of one thousand and forty-five teachers then employed in the public schools, one thousand and forty had attended normal lessons, either in the normal classes, the city normal school, or other normal schools.

The group of subjects which comprised this course of study, and for passing in which the second, or grammar grade, of teachers' certificate was awarded by the drawing committee, consisted of:

1. Free-hand drawing.
2. Model and object drawing.
3. Memory drawing.
5. Geometrical drawing.
6. Perspective drawing.

Afterwards, when design was taught, the memory-drawing examination became a drawing from memory of the teacher's own design, and has so remained.

Drawing from dictation is only a department of memory drawing, and not a distinct subject.

These five branches of drawing constitute, therefore, our solution of the question; "What kind, and how much, of drawing can be learned and taught by the teachers, and learned by the pupils in grammar schools?"

You will remember that you were taught these subjects from the blackboard and in class, by means of class lessons given to all by the teacher, who made the diagram before your eyes, and explained its construction and character to you, whilst you were reproducing it.

This is how the mysterious subject of drawing was brought down from the clouds, where it had been regarded as the monopoly of genius and the prerogative of the gifted, and naturalized upon this earth in our class-rooms, the common property of all human creatures who possess the average intelligence.

THE METHOD ADOPTED.

It seems to me, then, that the most distinct feature of the instruction which you received, and have given to your own pupils, is the *method* in which it was given, and that method (which must not be confounded with the *subjects* of instruction) involves the use of the blackboard by the teacher in giving instruction; and its employment for that purpose at every lesson given by the teacher is most emphatically "*the* embodiment of the authorized method of giving instruction in drawing" in the public schools of the city of Boston.

About the *subjects* of instruction I shall have something to say further on; but here let me impress upon you, that if called upon to answer the question, "What is the authorized method of instruction in drawing in the Boston schools?" your reply would be, "The blackboard method, and class instruction." Just now we are required to rely more completely than before upon this authorized method of instruction; and I desire to point out to you that this is no reversal of principle, but a closer adhesion to it.

Whatever develops the self-reliance of the teacher makes her more thoroughly the leader of the pupils; and no teacher so completely gains the confidence of her scholars as she does when showing confidence in herself, by doing before their eyes, and step by step, the work she expects them to do for her.

Then, again, this method is the most economical of time in teaching a large number. It is impossible to give private lessons in public schools; for the time devoted to one subject, such as drawing, is insufficient for more than the teaching of principles to the whole class, which every individual in it should be made to understand.

This is so completely proved to be true that, even in the high schools and free evening drawing schools, both of them one grade higher than grammar schools, the use of flat copies by the pupils is confined to the reproduction of those made by the teacher, before and for the whole class, and no flat copies of any kind are allowed in the hands of the pupils. This is being done when the subjects are light and shade from the cast, or studies in color from objects, which are, you will allow, more difficult and elaborate than anything taught hitherto wholly by class instruction, or than can ever be expected in grammar schools.

Understand me, I am not objecting to text-books; for I believe in them when they are of the right sort—which, unhappily, is not always the case; and, when of the wrong sort, we are infinitely better without them.

And there is a better thing than even a good text-book, and that is a good teacher.

But we do want some good text-books in the hands of our good teachers; and especially now is there need of analytical and exhaustive manuals on the subjects of perspective, model-drawing, and design, for the use of teachers.

I had hoped to have been permitted, through the kindness and forbearance of my admiring friends, to have assisted you who are my colleagues, and the cause of education generally, by preparing such works myself.

The French have a proverb that "it is the *impossible* which always happens"; and who knows but this apparent impossibility may actually occur?

If I should not be allowed so to help you, perhaps the hint from me that such manuals are wanted will be sufficient, and untold and indescribable varieties of them will be immediately produced.

SUBJECTS TO BE TAUGHT.

Let us now consider the *subjects* of the instruction in drawing in the grammar schools, and endeavor to see what should be the aim of the teacher in giving the instruction.

We must not forget that the prime object sought for in requiring drawing to be taught in the schools was the development and elevation of industrial skill and public taste. This must to a great degree determine the character and nature of the work to be done, and control the processes to some extent by which we do the work.

It must be definitely practical, such as is required by practical people who make use of drawing for any useful purpose, whether in the workshop for constructive purposes, or in the designing-room for the expression of taste and originality.

Thus it must include the elements of scientific drawing; its language, to give knowledge of the vocabulary of form; and its modes of securing accurate results, to insure that all which depends on exactness shall be available and understood.

It must develop the taste by familiarizing the pupil's eyes and hands with accepted types of the beautiful in art and in nature, and it must exercise and cultivate the originating faculty, the creativeness which is essentially human, for we are told that man alone is a designing animal, thereby to give opportunity to apply and combine the two elements of science and art, constructiveness and taste, which the two branches of instrumental and free-hand practice have taught us the language of.

For this reason we include geometrical drawing with instruments, to secure all that is valuable and necessary in true and accurate workmanship; free-hand drawing of ornament and objects, to obtain a knowledge of appearances and beautiful forms unattainable by mechanical means, and elementary designing, to develop the imagination, and learn the processes of applying drawing to practical and industrial purposes. Just how much of all these objects can be secured in each grade of our public schools depends upon ourselves as teachers. If we are content to do our share in each grade, without expecting to do all; and if we work on sound educational principles, aiming to get as much as possible out of each of these branches of drawing for the information and cultivation of the minds of our pupils, as well as the exercise of their hands, then we shall teach the subject as sensibly, as profitably, and as fruitfully as it can be taught.

But we cannot do everything in any one of the three grades, though the bulk of the work will be in the central or grammar grade. On the lower side of this center will be the work of preparation done in the primary schools, and on the farther side the work of application carried out in the high schools.

Between these two and the heart of both comes what I will call the work of education in the grammar schools.

Before going into detail, and being fully aware of the healthy variation of attainments both of teachers and pupils in the grammar schools, and the necessary and unnecessary imperfections in our work, I yet, with perhaps as long, as broad, and as thorough a knowledge of this subject of drawing, both here and elsewhere, as is required to form an accurate judgment, make bold to say, and take the full responsibility of saying, and all which that implies, that the subject of drawing has been and is better, more sensibly, and more successfully taught in the grammar schools of Boston than in any other grade of schools in any city in the whole world.

It requires some knowledge of drawing in the public schools of all countries and civilized nations of the world, and some experience, to decide what *is* good work, from a stand-point which takes in the whole field of art education, to be able to make such a statement. And let me remind you of the important factor that it requires at least an equal amount of experience and knowledge to be competent to contradict it; for less qualified persons, though they may mean well, do not know enough to give an opinion that is worth anything on this particular subject.

It is only the just due of the teachers in the higher classes of grammar schools that their work should be thus acknowledged; for it has long since been my opinion that it deserves the character described in the statement I have made.

Contradiction is now in order, if it can be made by competent people; and if it BE made by any one who can be so described, between now and the next time I am privileged to address you, it shall be considered by me, and the grounds of it conveyed to you.

A TRIBUTE TO THE TEACHERS' PROFESSION.

I hope you will allow me to say that in this matter I am imitating the example of the shoemaker who stuck to his last; for this judgment comes within the legitimate range of my professional business as a teacher. And out of respect for the teacher's profession I will add that it is because I know it requires as much devotion of life and labor and brains as any other profession, and practical experience in it is of as much value as in any other, that I have said what I have about *competent* judges, and will not acknowledge the competence to be judges of those who take up this business as an amusement, late in life, and become critics of our work, because they have nothing else to do.

Fellow-teachers, it is because I have taught this subject of drawing in every grade of school represented in the public schools of this city, and in every class of those schools, from the entering class of the primary school to the graduating class of the professional art and science school, and every subject in all those grades—that, on behalf of the teacher's profession, I assert for it the same authority and privileges of knowledge and experiences which are readily accorded to all other professions, and are their just due. And because of this experience I have presumed with some degree of confidence to express this professional opinion to you about your work, and to do it with the widest publicity, because I know it to be profoundly true, and ask you to accept it until a more competent and more authorized judgment be forthcoming.

SUBJECTS OF INSTRUCTION.

Speaking now of the subjects of instruction in drawing in the grammar schools, and commencing with the three upper classes 1, 2, and 3, it will be seen, by reference to the printed plan of instruction, that the same subjects are to be studied in each class, and the same number of pages in the blank-books to be devoted to each subject. The subjects and proportion of the twenty pages of the book given to each are as follows: free-hand, six pages; model and object, six pages; geometrical, six pages; design, two pages.

I may as well here take this opportunity to answer two questions put to me by some of the masters. The first is, whether, in free-hand, object-drawing, and design, one or two exercises are to be drawn on a page? In reply to this, I quote from the printed programme: "Whether one or two exercises are to be drawn on each page is to be determined by the teacher, according to the circumstances of the class and progress or the pupils." The same applies to the free-hand, model, dictation, and memory exercises of the three lower classes, 4, 5, and 6. The second question is one which, like a wandering, guilty spirit, refuses to be laid at rest, either by church, state, or education. It is, "In what subjects are ruling and measuring and mechanical aids permitted, and where objectional? May straight lines be ruled in model-drawing?"

As I have said before, our drawing, to be useful, must be practical, and must include the scientific and mechanical as well as the artistic and tasteful. Both elements are indispensable, and each possesses features unattainable in the other. Neither alone tells the whole story of practical drawing, and therefore neither should be alone practised to the exclusion of the other. But it is judicious in teaching to reserve some exercises wholly for one kind of practice, some wholly for another kind, and in some to make use of both resources—instrumental and free-hand—in the same exercise.

The four branches of practise for classes 1, 2, and 3, as they appear upon the printed programme, are, first, free-hand; second, model drawing. Upon these two branches I would have no ruling or measuring, nor guide points nor tracing paper, ever permitted under any circumstances. Upon the next two—third, geometrical; fourth, design—all the mechanical helps possible should be employed, and the proper use of them thus be taught to all pupils. The programme itself, on page 2, states that in the subjects of memory and dictation drawing, in the classes 4, 5, 6, it is optional with the teacher whether the exercises shall be performed with the assistance of mechanical means or without that help.

Let me, then, finally, recapitulate what is to be considered the rule in our schools about mechanical help.

In free-hand and model drawing it is *forbidden*.
In geometrical and design it is *required*.
In all other exercises it is *optional*.

THE TOPICS CONSIDERED IN THEIR ORDER.

I will now proceed to make some suggestions on these subjects in the order in which they stand upon the programme:

1. *Free-hand drawing.*—The work in the blank books is to be a review of that which has already been done in the books—not necessarily a repetition of the same exercises, but of similar ones, the teacher drawing the example on the board for the class to copy. A certain number of pages of the Free-hand Manual, from which to select copies, are suggested for each class; but this need not be strictly adhered to, if the teacher prefers to select others. You have the whole manual to select from, and can, therefore, adapt your selections to the capabilities of your several classes. The examples should be drawn upon the board upon a large scale—say 2 feet 6 inches or a yard in height—in its complete form, before the lesson begins, and, whilst it is being given, should be repeated by the teacher step by step before the class. When the finished example is drawn previously the diagram made by the teacher whilst the class is drawing need not be so exact or elaborate as it would require to be were no finished diagram available for reference.

To vary the practise, one or more copies might be drawn upon the board by the teacher, to be drawn by the class without such detailed instructions as have been described; or one-half of a symmetrical example, or one unit in a rosette, be given, and the pupils be required to draw the rest without a copy.

Allow me to suggest that in all free-hand, model-drawing, or designing exercises, a section of the class, say one-fourth, be put to draw upon a large scale on the blackboard. This bold practise will greatly improve the freedom of hand and sense of proportion of the pupils, and also make the drawing upon paper more rapid and accurate. Serious mistakes, which would be passed over, or not be seen, upon a small scale on paper, will become intolerable when perpetrated upon a large scale on the board. This may somewhat interfere with keeping the class together in their work in the books; but that could be remedied by giving two lessons to each exercise, and letting a fourth of the class spend one-half of the time of each lesson at the board, and three-fourths of the class at the same time to be drawing in the books.

Thus, in a class of forty pupils having two lessons of forty-five minutes on one exercise, or ninety minutes in all, the pupils Nos. 1 to 10 to draw on the board the first half of the first lesson, and Nos. 11 to 40 to draw in their books. During the second half of the first lesson, Nos. 11 to 20 to continue the work on the board, begun by the first ten, and all the rest of the class to draw in the books; the third and fourth sections of ten in each to do the same upon the second lesson, and thus complete the exercise.

2. *Model and object drawing.*—I have been asked "whether it is a waste of time to draw the copy, for practise, on slates before drawing it in the book." That partly depends upon how well the class can draw; but in model drawing it seems to me it would be a saving of time, and even in other subjects it could not be a waste of time. But it might occupy more time than the class could afford to give.

Whether the object drawing be from the solid model, or from blackboard, the pupils should draw the subject first from the board; and it then might be convenient to let this explanatory and trial exercise be drawn on slates, or on the board, which would be better.

The class rooms are so arranged that it is impossible to teach object drawing from the solid satisfactorily. The principles of drawing regular geometric forms can, however, be taught from the board, and be illustrated by the solid model and the object if placed in as good a position as can be found on the teacher's desk.

There ought to be one room in every grammar school, with the seats and desks ranged round it, in a circle or hollow square, leaving a broad open space in the center for the model or object to be placed, so that occasionally an object could be seen below the level of the eye. Or, if it would not be considered sacrilege, a corner of the hall might be used temporarily a few times in the year, to secure a good view of a model for the upper classes—one class at a time.

Those of us who have taught classes to draw from the solid know what an amazing fertility the average pupil develops in drawing that which it is impossible to see with the human eye, and in refusing to see the true shape of the object to be placed before him.

It is impossible to account for it. Among all the thousands of persons I have seen commence the practice of drawing from objects, whether young or old, not one has ever apparently seen an object, even approximately, as it appears to the eye, and, with a persistency worthy of a better cause, insists upon drawing it wrongly. There is no cure for this but practise, but it suggests how much reliance you can place upon the statement any one makes about the form of any thing, unless he can draw it.

I would not believe the evidence under oath, about the shape or appearance of any created thing, given by the saintliest person in the world, if his impressions resulted from his own eyesight as a witness, *unless he could draw*. Appearances and facts are not the same once in a thousand times; and unless he can deduce the appearances from the facts, and the facts from the appearances, he is not to be believed about the facts.

I regard this subject of object drawing from solids as being one which, under the present arrangement of the class rooms, must be difficult to teach; and suggest that the fullest explanations and complete illustrations by diagrams be given by the teacher at every lesson. It is better to teach the principles of perspective as, applied to objects, well, than to have objects drawn from by the class, which cannot be seen, or seen only in distorted views or unusual positions. By this I mean, that to put up a chair, for instance, which is usually seen below the eye, to stand upon the teacher's desk as a model, so that it will be seen above the eye, and the under surface of the seat seen for the first time in the lives of the pupils, is to make a hard subject of drawing harder still. It would be better to have the geometric solids in such positions; for they are not associated with any particular places in our minds, and are as likely to be seen above as below the eye, and in one place as in another. The subjects suggested in the programme are such as it is supposed can be obtained in every grammar school.

3. *Geometrical drawing.*—About the problems in geometrical drawing I would suggest that they be worked upon as large a scale as possible to get the required number done upon the allotted number of pages. Not more than six and not less than two problems should appear on each page. And among them the geometric shapes selected for the designs should here be first worked out.

The best result to be shown from this branch of study ought to appear in the drawing of these regular forms, both enclosing and forming part of the exercises in design, for that is applying a knowledge of geometrical drawing to practical and workmanlike purposes. And that is also where the usefulness and influence of the study best shows itself.

When, three years ago, I submitted a set of memory exercises in design, the work of the graduating classes of two of our grammar schools, to a distinguished inspector of art schools in England, he was struck with two features in the work: one was the amount done in the time, and the other was the originality of the designs. But he was simply *amazed* at the accuracy and workmanship of the geometrical drawing in the enclosing forms, and in the spacing out of the surface to be covered.

It is through this use of instruments, to secure exact work when accuracy is essential, that drawing becomes of practical use to industry; and, among all the branches of it, none is so completely industrial in its character, and useful in its applications, as geometrical drawing.

4. *Design.*—Some years ago, when design was a novelty in our schools, and had become somewhat a favorite study, an impression was created among the teachers that elaboration of arrangement and multiplicity of detail constituted excellence. The illustrations of elementary design, drawn upon a very small scale in the Manual, were partly responsible for this impression, which, nevertheless, was a great mistake. If any one of the designs in the Manual were to be enlarged so as to fill a whole page,

or even half a page, of one of the drawing books, the arrangement would then appear simple, and by no means crowded with detail.

But a change, which is also an improvement, has been observable during the last two or three years. A greater simplicity of treatment, with details on a larger scale, has prevailed.

Yet I judge, from the examination exercises and occasional exhibitions, that, in the higher classes, there is still room for improvement in this direction.

Nevertheless, if called upon to furnish some examples of drawing, by which the method and the work done in the Boston schools could be best judged, I should not hesitate at once to select the drawings from memory of the pupils' own designs, made by the graduating classes of the grammar schools, at their diploma examinations. They are simply wonderful, and have been so pronounced by very competent judges.

I would, however, suggest that, in the lower classes, a pleasing arrangement of very few leaves, or leaves and flowers, treated in a simple manner, should be sought for in preference to great originality, or profusion and elaboration of material.

I have recently defined elementary designing as being, "to practise the arrangement of simple forms in new and orderly combinations"; and this I commend to your attention.

DICTATION DRAWING.

The value of drawing from oral direction cannot be over-estimated, either in its practical influence upon teaching drawing, and the ease which results from it, or in its indirect bearing upon other studies. It develops habits of attention and thought, and teaches the value and importance of words. By it the teacher can show how necessary it is to begin a drawing with its most characteristic feature, as, for instance, by the central vertical line or axis of a symmetrical design; and also to determine the chief proportions before attending to details or subdivisions. It fosters the habit of working deliberately, without hurry, and enforces the value of doing one thing at a time, and doing it well. It shows the teacher also how much of form can be expressed in words, and what must depend upon the observation and taste of the pupil. It is a simple way of exercising and developing the imagination about the real and concrete; and, of all the branches of drawing practised, it is the most profitable in teaching the alphabet, the vocabulary, and nomenclature of simple, regular, and exact form.

Commencing with the illustrations to geometrical definitions, and proceeding by reviews and memory exercises to fix them in the mind and memory, the teacher may establish between the class and herself, by means of dictation drawing, such a realizing and appreciation of the significance of language, that every word uttered, either alone or in connection with others, will be canvassed mentally, and its meaning interpreted.

It seems to me that the fostering of such a habit in a mild and gentle way, and by an exercise which is partly physical, and never about abstract ideas, is a healthy educational process. In order to be sure that you may do all that will be expected of you in the several classes, I give you this practical counsel—to all:—

Let every teacher take one of the blank books, and space it out into the number of pages required to be given to each branch in her particular class, according to the programme. And here I will answer another of the questions put to me, viz: "Are the different kinds of exercises to be drawn together, or alternated in the book?" The answer is, Whichever the teacher thinks best; but it is convenient to have the exercises together. Thus, for the classes 1, 2, and 3, the pages 1 to 6, free-hand; 7 to 12, object; 13 to 18, geometrical; 19 and 20, design. In the classes 4, 5, 6, it would be better to alternate the exercises, in order the better to maintain the interest of the younger children. To resume the story of the teacher's blank book:

Having paged off the book into subjects, I would then make selection of every exercise in each subject which it seemed to me the class could best do; and as a guide for myself, I would sketch out every free-hand exercise, and place it just where, upon the page, I should want the scholars to draw it, and the size it should be drawn to fill the page agreeably. And repeat this process with the other subjects.

Thus, having planned the course according to the strength or weakness of the class, you will be able to direct and lead the work without loss of time, and have all the strength which comes from not only preparing every lesson beforehand, but from having fixed its place in your half-year's work as well.

With the programme, "The Free-hand Manual," and a copy of the work done from September to February before you, it will be a comparatively simple matter to make such an arrangement. The sketches need only be rough suggestions, for I know you have not time to do more; but doing that much will not only save your own time and that of your pupils, but add greatly to the confidence with which you will teach all the subjects in the class-room.

I used to notice, when one-half of the drawing books consisted of blank sheets, the best work was always to be found on those blank pages, wherever the teacher was interested in the subject. The opportunity we now have will enable you to show the best work all through the book.

Let all the diagrams and exercises be as large as possible, and well and truly centered and placed on the page. There is as much judgment and workmanlike habit developed by the practice given in adapting the example to the page as in balancing the opposite sides of a symmetrical object; and it is an introduction to the valuable mental and moral process of cutting your coat according to your cloth.

This spacing and centring of the paper is valuable practice, as every draughtsman knows who has ever made a working drawing; and it should therefore not be dispensed with in the teaching of industrial drawing.

GENERAL SUGGESTIONS.

It is believed, and in my opinion justly, that to give the grammar-school teachers of this city a blank book for their pupils, and ask them to review in it what has been done before by their classes, is, for a temporary exercise at any rate, safe and profitable.

They are not asked to extemporize pictures as copies, but simply to teach very elementary truths to their pupils, always remembering that the most valuable result to be obtained by the scholar, and therefore sought after by the teacher, is a mental one, not alone a picture of the truth in the pupil's drawing-book, but the truth itself in the pupil's mind.

I know that the teachers are able to do this work, and it is nothing new; but I could not have said so much a few years ago. There has, however, been a considerable advance in the feeling of confidence and self-reliance within the past three years on the part of the teachers, which encourages the drawing committee to believe that printed copy-books may be safely dispensed with for a time.

It is, of course, to be expected that the best teachers will not be satisfied with their own performances in teaching drawing, and it is extremely modest and beautiful in them to be otherwise than self-satisfied.

Good authorities, however, have expressed a high opinion of our work in drawing in the grammar schools, and you have been told what I think.

There is sometimes, among teachers, a disinclination to draw freely on the blackboard for purposes of illustration in teaching other subjects, and to provide copies when teaching drawing.

Let me ask you all to realize that the only way to become ready and expressive upon the board, and with chalk, is to steadily draw every thing you want to illustrate a lesson by, whether of drawing or any other subject. You cannot learn to swim unless you go into the water, and you cannot draw well upon the board unless you draw upon it *somehow*, *until* you draw well. The French have a proverb, "They forge well who *forge*"; and it applies also to blackboard drawing.

Then, it is well that teachers should remember that in these exercises in drawing they are not exercising artistic acrobats, but educating children, and by such exercises, and not training them to produce drawings; for the drawings in their books are of no more value, in view of the result sought, than are the numerals in the sums in arithmetic, which have been worked upon and have vanished from their slates.

The thing we have to do for children is to teach them to think, and to think rightly, to develop the ability to analyze and compare; to distinguish between the right and the wrong, between the beautiful and that which is not beautiful, between the true and the false; and to incline them to choose the right, and the beautiful, and the true, by their own mental action.

That is education; and whether the means by which we give the knowledge of facts, or excite the emotions to produce the mental act of choice, be arithmetic or drawing, the result to be looked for is the same; and the procees and manual exercise through which it is done are only the means, never the end, and relatively therefore of little importance.

I am led to impress this upon you because teachers sometimes show me the books of their scholars, and apologize for imperfect work in them. There is no need for such apologies: if the work is honest, it *must* be imperfect, and if the teacher is faithful and fair to all alike, it *must* be very varied in attainment. Uniformity in the manipulative processes, the outward and visible signs of instruction, in any class-room, means cruelty to animals, and there is no other way of accounting for it; and that is something which is simply detestable.

What we are trying to do in our lessons is to make the children know *how* to draw, not how to make drawings; and I hope you see the distinction. And the great reason for them to draw is, that the process of drawing makes ignorance visible; it is a criticism made by ourselves on our perceptions, and gives physical evidence that we either think rightly or wrongly, or even do not think at all.

For a bad or incorrect drawing is never an accident; it is an uncomfortably accurate mirror of our thoughts, and fixes the stage of mental development and civilization we have arrived at.

Good or bad pictures are never produced unintentionally; they have existed in the brain in all their beauty or deformity before they passed through the nerves and fingers on to the paper or canvas. So with drawings; if a child draws in a diabolical manner, don't trouble so much to alter the drawing in his book, as to change the mental process in his skull. That is where the mischief springs from, and it is the only place where it can be cured.

In conclusion, I think it is rather an advantage than otherwise, that, by circumstances over which we have apparently no control, and by authority which it is our duty to recognize and respect, we should, as teachers, be thrown upon our own resources to review a subject that we all know. It is a precedent not unlikely to be followed in the interests of true education, that the work of the first half of the school year should be reviewed and made more thorough in the second half, by being gone over a second time, instead of our undertaking other work, new and fresh.

This change, made now for the first time, will involve no new departure from the method of instruction hitherto pursued, nor the introduction of any new subject, nor the imposition of work not done before at some period of our experience, in the maturing and development of this subject of instruction in public schools.

For ten years we have worked together; not only for drawing, and in the city of Boston, but for the organization and establishment of a neglected though important element in education, for the use and benefit of all who live on this continent.

Recently a distinguished expert in educational matters, representative of the most artistic nation upon this earth, said of Boston, that it was the only city in the world where all the children were taught to draw well by the regular teachers. If we have cause for satisfaction in this, it is because education has thereby been advanced in a natural and legitimate direction, from which it will never retreat so long as our mother-tongue is spoken in this land.

And this has been accomplished, not by systems, nor text-books, nor specialists like myself, but by the faithfulness of the regular teachers, and by the educational instincts of the race to which we all belong. That is *something* which the labors of our youth, the devotion of our lives, and the character of our common ancestors have given to us, and which nothing can ever take away from us while we live, move, and have our being. And upon that *something*, fellow-teachers, we must all now depend.

THIRD LECTURE; DRAWING IN THE HIGH SCHOOLS.

[Addressed to teachers of the high schools only. Delivered in 1879, in the Normal School.]

In the year 1870 the drawing committee of the school board of the city of Boston issued a report in print, in which occurs this sentence:

"Of all the studies in our public schools, drawing exhibits the most feeble results. We have had no system. Our teachers have not been instructed, and the work must now be commenced. Shall we have a plan? or shall all be done at random?"

In the year 1876 another report was printed, not this time by the drawing committee of Boston, but by the French commissioners on education sent to the Centennial Exhibition at Philadelphia. They had there subjected the exhibit in drawing made by this city to the closest scrutiny, and presented to the French Government a very analytical and exhaustive report upon the whole subject of industrial drawing as displayed in the exhibition. After finding some slight faults with the materials used in our treatment of the subject, and noticing the comparative exhibit of all the States, they say—

"The public schools of Massachusetts presented a collective exhibit extremely remarkable, the most complete of all, and the most methodically arranged."

Again—

"Such as these works are, they bear witness to the excellence of the method, to the good disposition of the scholars, as well as the conscientious and intelligent care given to the instruction with the view of developing the practice of practical elementary drawing. If we bear in mind that these fruits are the result of two years of trial, we must admit that never before have such remarkable results in so short a time been attained."

COMMENT BY THE FRENCH COMMISSIONERS ON THE MASSACHUSETTS PUBLIC SCHOOL DRAWINGS.

In drawing inferences from their study of the whole subject and contemplation of the works displayed, the commissioners make this suggestion:

"It is necessary that France defend her pre-eminence in art, hitherto uncontested. With us, as elsewhere, it does not suffice to have excellent special teachers of drawing; *it is necessary that all the teachers should be able to give the first instruction in drawing in the day classes to the entire school population.*"

I put these two statements of two very different bodies of men before you for the purpose of asking whether the question of the drawing committee of 1870, when they asked, "Shall we have a plan?" has not been answered by our experience and testified to by competent authorities.

And when they promised—after making the statement, "Our teachers have not been instructed"—that "the work must now be commenced," I would ask, Has not the drawing committee kept its promise? The work has certainly commenced, and the teachers have been instructed; and we are here to-day because it is not yet completed.

If France acknowledges that we are preparing to contest her pre-eminence in art, and suggests to her government the adoption of our plan as her defence, viz, the employment of all the regular teachers of the public schools to teach the subject and give the first instruction—it appears to me that we certainly have a plan, and that all is not now "done at random," as it was in 1870.

Fellow-teachers, the most earnest and conscientious amongst us are often distracted in our work by the squeaking of penny trumpets of disapprobation; so let us not ignore this diapason of recognition from the most artistic nation in the whole world.

Were I a clergyman, and about to preach a sermon, I should take as a text, "Great is thy faith: be it unto thee even as thou wilt."

Eight years ago I stood on this platform, and enunciated the doctrine that adult teachers might learn to draw and become proficient teachers of drawing to their pupils, if they would only try to do so, on the one condition that they should have faith in themselves, and be as patient with themselves in trying to learn as they would be with their pupils when teaching them other subjects. This belief of mine was not very generally acquiesced in; but a large proportion of the teachers, a vast majority of all the Boston teachers now in the city's employment and in all the grades of schools, were willing to try to learn drawing and to teach it, and have tried diligently and faithfully. And it was the result of this trial, as evidenced in the works of their scholars, which drew from the French *savants* the words of commendation I have quoted; and they were deserved.

This occurred to me as a fitting introduction to what I have to say to-day, because we are now on the threshold of another new departure in this matter, as characteristic, and involving as much faith on your part to insure its success, as that original change made eight years ago.

THE SPECIAL TEACHERS OF DRAWING SOON TO BE WITHDRAWN FROM THE HIGH SCHOOLS.

You all know that the school committee has decided to withdraw the special teachers of drawing from the high schools after the close of the present school year, principally as a matter of economy; the initiative in this step having been taken by the committee on revision, not by the drawing committee. Next year, then, the regular teachers of the high schools will be required to give the instruction in drawing to their pupils in the same way as the primary and grammar school teachers already have done for several years to their pupils; for it has been assumed that the high school teachers are at least as capable as those of any other grade.

The remarkable success of teachers in the higher grammar classes has made it necessary, if progress is to be maintained, that some subjects of instruction in the high schools should be developed and improved; and, in the general revision of studies made for the schools, the subject of drawing has been rearranged, to bring it into true educational sequence with that which precedes it, and into harmony with the improved possibilities, as well as the needs, of the present day.

The revised plan which has been adopted by the school committee contemplates the carrying out of the new order, commencing in September, 1880; and it is to prepare the teachers for this work that the drawing committee has provided this special class for high school teachers. The suggestion is also made, that, so long as special teachers are employed, the regular teachers of the high schools should work out the exercises done by their pupils in class under the special teachers during the current year; also that additional practice may be obtained by attending one of the free evening drawing classes, of which there six in the city. And this last suggestion is not made with the view of monopolizing the spare time of the teachers, but only to point out that plenty of opportunities exist for obtaining instruction by those who desire it, or who do not feel qualified to hold their positions in the high schools to the satisfaction of the school committee without such instruction.

We have to carry on this subject now into one grade higher than the second or grammar grade, and it will be to attain this third grade for the high school teachers that the principal efforts of the drawing committee and myself will be directed this year.

ON TEACHING.

Before entering into details concerning the revised course of study, I desire to make some general observations upon teaching this subject, and commend them to your consideration as teachers.

We have no need in this quarter of the nineteenth century, or in any intelligent community, to ask whether all children can be taught to draw, or whether all teachers can teach the subject in the public schools of all grades. These are settled issues in all progressive countries and in all but very drowsy communities. What concerns us now is *how* it can be taught so as to secure the best practical results educationally and industrially; and just at present the question we have to consider is, how can high school teachers qualify themselves, if not already fitted, to do this work for their pupils?

I must here appeal to both your faith and patience — the faith which can remove mountains, and the patience in which we are told we can alone possess our souls. You begin this additional year's study well prepared by previous study and practice on the second or grammar grade; and, though it cannot be supposed that you will teach the subject to your pupils at the end of your first year of study as well as you will after several years of practice in teaching, yet in making this beginning you have only to attack a difficulty which has been already overcome by the grammar school teachers, and you begin it with infinitely better preparation.

You will need to attend this class once a week for two hours, and will require some time for home practice, to work out the lessons here given; for, as you well know, work done by yourself has a certain kind of influence not like that done in the class room. And you must never forget that you will only have to teach drawing as an element in general education, not as an art or specialty.

How and to what extent should drawing be taught in high schools?

Let us first recognize that, to justify its place in the public schools, it must be made educational to all, not to a few only; and this properly limits the range of instruction to general education, and prohibits its treatment as a special subject, requiring professional skill of a special character in the teachers. Drawing has the same relation to art that language has to literature. As a specialty, as picture making, for the accomplishment of the few, or the recreation of the few, it ought to have no place in public schools supported by the taxes of all.

But if it develops observation in all, opens the eyes of many to the beauties of nature and art, leads the few to discover unsuspected powers in themselves, fits many to become skilful in industry, and all to become a refined constituency for the development of great national capacities and industries, utilizing mental and physical resources of the people and the country, then it may well be supported by the public, and taught to all in the public schools as something which is of general advantage.

To adapt the subject so as to comply with this condition, it was necessary to abolish the mere picture making as taught by the old generation of drawing masters to the few pupils who were supposed to have talent, a method which was as unphilosophical in theory as it was unsuccessful in practice, leading only to sorrow and travail in the pupils and the delusion or disgust of parents Whatever may be the character of the exercises made by pupils, the only results of any value arising from teaching drawing in the public schools are to be found in the minds of the pupils, not on their drawing paper. If all the drawings ever made in public schools were to be collected into one heap and made into a bonfire, and the destruction decreased by a feather's weight the results of the education given, then the instruction has been misdirected. The subjects taught and text books or examples used are only opportunities for giving or obtaining useful information, or to develop by practice a certain amount of that which is sometimes wrongly called *manual* skill, on the same plane as the mental perception. I purposely say "wrongly called;" for manual skill, as distinct from intellectual perception, or as being in a different stage of development from it, does not exist.

PEDAGOGIC VALUE OF THIS STUDY.

Each lesson or exercise in drawing, or any other branch of education, is merely the peg upon which a teacher can hang a certain amount of information, or by which he can irritate into action the mental powers of his pupils; and the work of the pupil is the record of what has taken place, the first step toward assimilating the information or displaying the inventive powers which have been aroused or called into play. The value or efficiency of the lesson is not, therefore, to be measured only by the beauty of the drawing made by a pupil, but by the evidence it gives of having made him think new thoughts and cast away old ignorance, seen with a keener vision, or comprehended a revealed beauty. It is consistent with good instruction, therefore, that the manual work of pupils may be very unskilful, whilst the teaching may have been excellent, and the educational process be manifest. If the drawings display an effort to express some grammatical truth of form, or illustrate a principle in graphic representation, however clumsily expressed, the teaching has been good; but if all the drawings show the same mistakes in an important principle, the pupil must have been badly taught. [As a practical teacher, I would, however, like to make one exception to this general statement: I have never seen or heard of a pupil who, however good the teaching, did not at the beginning of his practice make retreating parallel lines to diverge, instead of making them converge, as they really appear to do.] Notwithstanding individual deficiencies in the taste or handiness of pupils, it is easy enough to see if a truth has been comprehended, even if there be an artistic stammering in its utterance, which is a matter of temporary habit only. In my opinion one of the least valuable results of teaching drawing in the public schools is that the pupils will learn to draw, for thousands will be benefited by the education it gives for one who will be helped by practising the art in his future vocation.

In my own practice, as the principal of two normal art schools, I have observed that those who are studying to become teachers of drawing display their possession or deficiency of the true teacher's instinct by the manner in which they practise teaching as a normal exercise. Some will go round to the pupils who are engaged each on a separate work, look at the drawing, sit down and carefully correct its errors on the drawing itself with their own hands, saying little or nothing to the pupil, passing on to the next, and repeating the same process of instruction, so called, as though the teacher's business was to pick people out of the mire, instead of teaching them to walk so that they would not fall into it. Those are the aspirants who will never become teachers (though they may fill the positions and draw the salaries), unless they can be made to see their radical error of method, and change their system of instruction.

Others there are, who, from their first efforts at teaching, display instinctively the habit of creating an improving desire in the pupil, and regard a wrong or faulty drawing as evidence of something misunderstood in the pupil's mind, or as the result of insufficient or confused thinking. Instead of setting to work and altering the symptoms of the disease which show themselves on the paper, they go behind the symptoms, and attack the disease itself in the mind of the pupil, eradicating the cause, and letting the effect take care of itself. Those are, in my opinion, the students who will become teachers.

It is better to correct the thought which produces the wrong drawing than to correct the wrong drawing which is the product of the wrong thought; though it may sometimes be necessary to operate on the drawing, not to beautify, but to destroy it, if need be, in order to demonstrate the erroneous thinking.

I suppose this to be true in other subjects as well as in drawing. If a teacher of arithmetic found in a sum worked by a pupil the numeral 3 where a 5 ought to be, he would hardly go to work to show the scholar how to patch up the 3, and put a head on it so as to convert it into a 5, but would point out the false step in the calculation, so that the scholar seeing his error would become dissatisfied with his 3, and be impatient to score his 5.

That is precisely how I would correct a drawing; in the thought of a pupil, and make him correct it upon his paper as evidence of his improved knowledge.

DRAWING A SCIENCE AS WELL AS AN ART.

I have often tried to impress upon the many teachers who have attended my lessons in this building that drawing may be said to have two elements—the first relating to matters of fact, the scientific element, and the second relating to matters of feeling, dependent on taste. It is a great comfort to know that a large proportion of educational drawing—the elements we have to teach—belong to the domain of fact, about which there is no more mystery, nor can it be more a subject of controversy than is a proposition in Euclid—no more and no less. No amount of sentiment or difference of opinion can change a scientific law, though it is easy enough for people to be wholly ignorant of it, or misunderstand it in the degree ot their ignornce. We reach solid ground when we get to the representation of regular forms in defined positions by means of perspective or model drawing, and the effects of light and shade upon regular or irregular objects depend upon the operation of laws which are as old as the sun, and as unchangeable. The true form and appearance of a definable object under given conditions, whether as to its size, outline, or effect of light and shade upon it when in one light, are all as definite and demonstrable, and the representation of them as much a matter of right and wrong, as any other scientific facts in the world of physics. That is incontrovertible.

People may argue in a circle to all eternity about a certain painter's eye for color, or the appreciation which another artist has for aërial perspective, and become as unanimous about it as they are about religion and politics; but neither sentiment nor culture changes the law of form or of light and shadow, any more than they can affect the truth of the multiplication table, or change the law of gravitation.

There is a scientific element in all drawing and in all art, which must be regarded if the drawing is to be true. . There is a right and a wrong about the delineation of form and light and shade, which can be learned by all who are intelligent enough to learn anything—a law that will never wear out or go out of fashion; and it is a comfort to know that the appreciation of this prime element in all intelligent art is a matter of the understanding, which all teachers are supposed to possess, and not one of that indefinable attribute called taste, which does not seem to be so common, and which some people, even teachers, are often willing to say they are deficient of. Clearness of understanding will therefore be the chief qualification to become a possible teacher of drawing upon the basis on which we shall have to teach it.

There are other features in drawing, such as the use of color, an eye for proportion, harmony, and contrast in design, which do depend upon taste for their excellence. But even in these departments a higher law prevails, and harmony of color is as much a question of law as harmony in music; so also there are true principles of design based on a study of nature's laws, and the practice of the best schools and masters, which are very definite in application, and incontrovertible. The teacher should, however, as a rule, not vex himself or his pupils about these features into which the element of individual taste enters, and is so important, but adhere to sound grammatical principles and processes in the elements of drawing. We are all of us more or less color blind, and no man ever yet was catholic enough to love the art of the Greek and the Goth with equal affection.

The differences and even the idiosyncrasies of good taste are to be respected; for this variety in choice and preference is a great charm in all things. Some people are narrow enough to believe that there is only one right and one wrong in all matters, whether of fact or of opinion; and yet we find that, except in the main lines of creation, nature is perpetually varying her productions, seeming to contradict herself out of the very wantonness of profusion, as if she was afraid we should form too low an estimate of her wealth and playfulness, laughing to scorn our picayune observations, and deriding us from a higher plane than that we stand upon, one which includes the small and few things we have perceived, in a vast horizon which stretches beyond our narrow vision.

GREATNESS NOT THE PRODUCT OF EDUCATION.

It is a remarkable fact that the great men of the world seem to have become great in spite of their education, and often in precisely those departments of thought or action in which they were never instructed except by nature and observation. So it would appear that all we can really do for a healthy child is to educate his faculties and leave the rest to nature and time; above all things to avoid teaching tricks or specifics, or the idea that any process or knowledge is complete or final, and that in the work of education there is only so much to learn, and then we must be satisfied.

I think it necessary to say so much to you, because in your departments of instruction so many things are fixed and unchangeable—as, for instance, grammar and geography and arithmetic—and you might therefore interpret what I have said about the facts of drawing as limiting the scope of your teaching in the subject to the mere physical laws of appearance, ignoring the higher developments of poetical renderings of nature, or the wealth of a fertile imagination, which has often detected the true type in many varieties, and can formulate the very highest generalization.

EVERY CHILD ENTITLED TO THE DEVELOPMENT OF ALL ITS FACULTIES.

Let us believe in the infinite capacity of all our pupils, though we cannot distingish the great from the small whilst they are in our care. Give them all credit for being the raw material of great men, and teach them all we know of the eternal principles, leaving to them the responsibillty of doing what they can with the truths, the modest truths, we have been able to impress upon them.

We must give all our pupils credit for having the faculties of each, and remember that a faculty, like a limb, may become stunted and withered if its existence be ignored, or it be never exercised. It is this recognition of its existence, no matter in how crude or limited a form, and the judicious appeal to and exercise of it, that develops and makes it healthy. I would repeat that we are too apt to believe or assume without thinking that the child's education is confined to or measured by the time spent in the school-room, forgetting that every thing, from the air we breathe to the very sleep we take, is either educating or destroying us. The child surrounded in its home life by an atmosphere of taste and culture will be naturally more sensitive to ideas and forms of the beautiful than one who is not so happily circumstanced; but that is not a difference in faculty, but rather one of readiness to assimilate instruction easily; and even in this matter the race is not always to the swift.

ONE OBJECT IN TEACHING DESIGN.

There is one feature in teaching applied design to your pupils which I ought to point out to you, and it illustrates that which I have just said. It is no more intended or expected that all who design shall become designers than that all who make Latin verses shall become poets. The exercise is disciplinary of common faculties, not of special abilities. Pupils are thereby taught to exercise their creative and originating instincts, to arrange and express their thoughts in the language of form, to secure a defined result, just as they are instructed in the use of their mother tongue or any verbal language by the exercise of writing original compositions in it. It is much to be hoped that all who practise English composition will not become authors, though they may be educated and made more useful citizens by writing good English. So it is with designing. It is to develop observation and originality, and create a habit of method and order and love of accuracy in their work, that pupils are taught to design; to give them scope to display the best and the worst that is in them; and to substitute the best for the worst under careful guidance, and for the development of their constructive and creative faculties. It will also directly exercise the imagination, and necessitate habits of observation; for nothing so opens the eyes of people to the art work which is often to be seen surrounding them as the task of having to create something of the same kind imposed upon themselves. Then for the first time many begin to see what others have done when such a task was given to them, and know what it is to plan and arrange and test the value of the actual knowledge they have acquired.

You must not expect very good designs from your pupils, remembering how very seldom you get good work from even professional designers. Not one design in six made by the latter is carried out into execution, and not one in ten is fit to be. So remember to be merciful in criticising the designs made by high school boys and girls, regarding them only as testimony of their thinking, the symptoms of their mental affections, which you have to make a diagnosis of, and prescribe for, for each individually as the symptoms vary.

The remarkable success and ingenuity displayed in the graduating classes of grammar schools lead us to hope that each year will give us pupils for the high schools better prepared than before in this as well as in every other branch of drawing.

In teaching perspective and model drawing, though it is necessary to teach by illustration and repetition certain fundamental principles of representation, certain definitions and axioms, yet the mere word repetition, or being, as the actors say, word perfect, in them, will not necessarily shed light upon their work in practice. Yet I am not averse to requiring the pupil to repeat a rule he knows and has often complied with, if he, and whenever he, deliberately outrages it in his practice through indolence or want of attention; and calling upon him in the light of his better knowledge, to correct his own bad work by help of an awakened memory or conscience. But this appeal to formula is open to abuse. Some of the teachers in primary schools make a mistake in that direction about the geometric definitions when teaching them to young children; and, as a similar mistake may be made about the axioms of perspective and model drawing. I will here repeat to you a statement lately prepared for them about the mode of teaching definitions:

HOW DEFINITIONS SHOULD BE TAUGHT.

"It is to be understood that the learning by drawing the diagrams of geometrical definitions is intended to give children correct ideas of the position of lines and the character of regular and to some extent of irregular forms. This is not to be confounded with *memorizing* the words of the definition, which may be done in a mechanical way without grasping the idea of the form described, and thus be useless and monotonous labor. The correct idea of a line or form (as for instance of an oblique line or an equilateral triangle) should come first, then the drawing of the form which expresses it, and lastly the words which define it. If the child possesses the true idea of a form, and proves its understanding by drawing the illustration as accurately as a child may be expected to do it without cruelty in the teaching, the definition has been learned, and the most accurate and concise way of defining the form in words will afterwards be easily learned, because those words will represent and express knowledge already in the child's mind. But the words without the ideas represent nothing to the child, and therefore the committal of them to memory should be waited for, and not expected or insisted upon, at first. The theory of a definition in words is, that it should reflect an image which already exists in the child's mind, and not be a substitute for that image, uttered by the tongue."

I should apologize to you for speaking about *memorizing;* for I confess to being unable to comprehend the meaning of the word as sometimes used by teachers. There are some things which were never committed to memory in the sense which some people seem to attach to that expression, but which can never be forgotten whilst life and reason remain; and there are others which can never be remembered, whatever trick be resorted to to keep them in mind. I expect most people can remember what they understand, if it is of sufficient importance to them to remember, and this applies especially to principles; and they forget that which they cannot understand, or which they believe to be of little consequence. What boy ever tried to memorize the place in the orchard where that particular tree grew upon which the first ripe apples appeared at summer time? And yet where was there ever a boy, who, once knowing it, ever forgot the place?

Drawing from memory is merely testing the knowledge you have retained of that which you have once learned; but the manner in which you have learned it, and extent to which you have known it, will determine your remembrance of the fact, and no formal memorizing will keep you in that.

I propose now to refer in detail to subjects which form a part of the revised course for high schools, and with which we shall have to struggle in this class for instruction in the third grade.

CLASS INSTRUCTION FROM THE BOARD, AND OBJECTS.

I wish most emphatically to state that any branch of drawing in any of the grades of schools, which cannot be taught to all alike in a class by class instruction given by the regular teacher, helped by such diagrams and illustrations as the teacher makes for or before the pupils, and strengthened, if need be, by repetition of examples used as materials in instruction, as, for instance, natural objects, casts, &c.; in other words, any exercises involved by teaching drawing which necessitate the individual instruction of pupils ought not to find a place in the common school class room.

Correction of the work of individuals is as necessary in drawing as in language or arithmetic; but it should be the correction of individval errors made in working from class instruction, and this only to supplement the teaching of general principles, which the pupil has misunderstood, or has not attended to the explanation of. For the teacher to do more than this for individuals is eminently unjust to all concerned. No teacher with between thirty and fifty pupils to instruct in a short time can give private lessons on separate works to all, and that is what the old way of teaching with flat copies, each a different subject, really involved; but there is ample time to give full and complete explanation and instruction to a class of any size within eyesight of an object or the blackboard, and within earshot of the teacher, if the teaching be given by class instruction from one subject or object for all the pupils at the same time. And the exercises of individuals must be treated in this subject as in any other, viz., be examined and corrected, if need be, by the standard of the principles taught; and that should be the form and limit of the individual teaching given to each pupil.

This limitation also proscribes all fanciful freaks, likes, and dislikes of individuals as to subject, and excludes from the course of study all objectionable branches and subjects which involve loss of time for both teacher and pupil, and which, being in the nature of amusement or recreation, convey nothing of general interest and consequence, or of educational value.

Such a change as is indicated by this mode of class instruction would be necessitated by the discontinuance of special instructors in the high schools, even if it were not the best method under any circumstances, as I claim it to be for the common schools of all grades.

Under the departmental plan of teaching in schools, all the teachers are special teachers, with the exception of the principal; and where that is the case the drawing teacher, as a specialist, is in his right place; but even then the class system, by one general lesson to all, as distinguished from the present method of teaching each pupil on a separate copy, is infinitely preferable to the latter.

If it should be found that good results do not immediately follow such a plan, it will yet be something to have discountenanced the wrong principle of giving private lessons in public schools, and to have established the right method of instruction in drawing as a part of the common school system.

Should satisfactory results not immediately appear, the explanation will be found in one of the three following reasons; viz.:

1. The subject of instruction is not suitable to the common schools or a legitimate part of general education; or
2. The scheme is not well arranged and graduated, and the pupils are therefore not well prepared in the lower classes for what has to be done in the higher; or
3. The teachers are not competent to give the instruction.

The first and second reasons will not apply to that which you have to teach or to the plan of instruction which does prepare the grammar school pupils for high school work, as evidence obtained during my long experience in the annual or semi annual examinations conclusively proves. The third cause of failure is remediable where it exists, just as it has already been remedied in the primary and grammar schools. The educational instincts of a good teacher will carry him safely through and over the manual practice required, and he has already learned the more difficult art of simplifying and imparting knowledge to pupils by explanation and demonstration. The best results hitherto obtained from teaching drawing in the high schools have been in the classes wholly taught by the regular teachers, not from those which have received instruction from special instructors, whose influence with pupils has been less efficient and whose normal training less complete. This has been made manifest more and more as the years have passed, and we must accept it as demonstrating a principle which has not yet been sufficiently recognized. It is well for us as citizens that in this matter the interests of education and economy are identical; and a careful observation of work and results for eight years in all the grades of schools convinces me that this is the case. In determining to remove specialists from the high schools the committee on revision meant only to be economical; but they have, without knowing it, advanced a true principle of education; and the only matter of regret is that they should not be consistent and apply the rule to all subjects as well as to drawing, though it is a great testimony to the success of drawing that it should be first able to bear the application of so good a rule.

MODEL AND OBJECT DRAWING IN LIGHT AND SHADE.

How this is to be taught by class instruction I shall endeavor to show you by the method I employ in teaching you here. Much of it will consist of applying the laws of linear perspective to drawing from the solid, and the rest to the expression of roundness and distance, realism and intensity, as affected by aërial perspective. You know that it is not convenient nor judicious to teach light and shade in the lower classes before the pupils enter the high school, though they are taught to draw from objects in outline and true perspective. This new feature of light and shade is therefore but the addition of one more characteristic to the drawing previously practised. I have been accustomed to define the three branches of drawing as (1) outline, or form; (2) outline, and light and shade, or form and roundness; (3) outline, light and shade and color, or form, roundness, and tint; and to describe these degrees of truth in the expression of what we see as being repectively (1) one-third, (2) two-thirds, (3) three-thirds, of the truth. It is not asserted that they are of equal importance in expressing the truth when a drawing has to be made; but they are distinct features of an object, each susceptible of being truthfully or untruthfully rendered, and the aggregation of these elements determines the value of the drawing as a record.

The same object displayed before a whole class will be seen differently by every member of it (with the single exception of the sphere). How, then, can all be made to draw the object with reasonable accuracy? I would answer this by saying that, if the class be taught to draw what they see, if clear and radical explanations be given of the possible ways in which the solid or object may be seen, and also in which it cannot be seen, under given conditions, and these explanations be generously full in detail, and exhaustively illustrated by diagrammatic sketches on the board or on paper, as a preceding exercise to the class work, and accompanying the progress of the pupils, then you may be sure you will open the eyes and educate the perceptive and executive powers of your classes at the same time. The reproduction of these diagrammatic sketches by all the pupils before a subject is commenced will never do harm; but, if they have been previously well taught, it will not be necessary.

The three materials used most commonly in drawing to obtain effects of light and shade as seen on objects are the pencil or crayon, the stump or leather with carbon, and the brush and one pigment; the two first being called the dry point, and the last the wet point.

The mode of work peculiar to each, and the effects obtainable, you will see illustrated by your own practice here; and it is not to be denied that the mastery over these tools and implements will be something of a struggle to you at your age, but the young people will not be troubled by it. It will be necessary for you to do the very worst you can, and make every mistake possible, whilst under my tuition, in order that I may show you the cause of your failure and the way out of it; for that is what you will have to do for your own pupils next year. You need not fear that I shall be displeased or discouraged by your efforts if they are not masterpieces. By no means! The only discouragement to a good teacher is when his pupils telescope their faculties, and do nothing, waiting for something to be done for them; and then that is a hopeless business, meaning nothing all round, nothing for you to learn, nothing for me to teach—blank generally.

I hope we are too old to commit educational suicide in that way; and so I shall expect you all to do the best, as well as the worst you can, with all the light you have, and thus give me the opportunity to show you how to make it the best possible by correcting your mistakes whilst they are yet young.

It is a golden rule in teaching that you cannot teach that which you do not know, and, except in singing (when your own voice has gone, though you once were able), you cannot make a pupil do that which you are unable to do yourself. So the only way to make a clean sweep of your pupils' difficulties is to feel and destroy those same troubles in your own experience; and then you will feel at home and happy in your class-rooms when the youthful artists begin to experience the inevitable troubles incidental to early practise with point, or stump, or brush, and to make all the mistakes possible to the callow powers of a fallen race.

If you will be faithful to me, and show me all that you do not know and cannot do, when called upon to record your knowledge on a typical exercise, I will be faithful to you, and show you what I do know and what is known on the same thing.

PERFECTION RARE IN ART.

And, fellow-teachers, let us try to realize that the best work of art is only an approximation to the truth, not a realization of it; so that, in our own works, and more especially in those of our pupils, we must only expect a modest approach to the expression of true drawing, even when we and they have done our best. I have very seldom seen a painting or a drawing, either by old or modern masters, so called, that has not displayed some childish error in the simple matter of perspective, and most of them are crowded with diabolical mistakes in drawing. The artists who have been graphic scholars, who have spoken grammatically truly, as the sun speaks and as science interprets, are to be counted on the fingers of one hand without exhausting the fingers.

Study form as you would mathematics, study beauty as you do Greek and Latin verse, study expression as you do study it in music, and study truth as you would in a chemical analysis, and then apply this test to the productions of all artists,—including those who have picked up a vagrant education by rule of thumb, or depend on what they consider the inspiration of genius,—and you will find that the world has produced but two art scholars, Phidias and Michael Angelo. The rest have been generally wandering in the wilderness, seeking vainly after the truth, many of them ignorant even of the language in which she speaks. I go to exhibitions of modern paintings only to find efforts at oratory which are not even decent enough to be grammatical, and see attempts to embody heroic achievements rendered by people who are too gifted to tell the truth about that which they are supposed to know; from which one may draw the inference that their imagination is mere crude speculation, and their sentiment, pathos. Their habits being unequal to the demand of the true, they are incapable of rising to the appreciation and expression of the beautiful.

I bring this before you, high-school teachers, because people are accustomed to surround the subject of art with a halo and a glamour of mystery; to shake their heads, and hint at divine gifts, when men of intelligence and brains venture to look into the mysteries of expressed art. As a professionally educated artist and graduate of a national art school, I would say that there is nothing in modern art and nothing in the subject itself which a cultured man is unable to understand with very little study. In fact, tried by the standards of the past, by which some departments of human intelligence and performance would not suffer, our modern art work may be fully described as the apotheosis of insufficiency; so that neither you nor I need feel very frightened at modestly taking up this matter of teaching the elements of an art which has been so very imperfectly understood in the past, and is so very imperfectly practised at the present time.

The cause of this deficiency is the absence in the past of the systematic education in the elements of art which we are called upon to give in the public schools; and when this has been given for a generation or two we shall see, or those who succeed us will see, a more intelligent and nobler art than has ever been possible without such foundation work as that we are now attempting.

COLOR.

The practice in color, which seems suitable to pupils in high schools, and which is practicable of attainment in the class-rooms there, consists of studying the historical ornament of such styles as employed color in their ornamental art as an introduction to the use of the pigments and brush, and afterwards the study from objects, natural and others, such as may be easily obtained by teachers and pupils. During one term of half a year a good subject of any of the great historic styles may be executed by the class from large diagrams made by the teacher, and reproduced by him before the class whilst they are doing the same thing. Three or four lessons of two hours each will be ample time to accomplish such work; and, if the amount to be done at each lesson be shown by a separate diagram, the first giving the outline and the following ones each advancing the work one stage further towards completion, a whole class can thus be instructed together, and learn to accomplish by clear and distinct steps a definite amount of work in a given time, and in the right way. Every teacher should produce such illustrations as are required to make his class understand the subject and the processes, made on a large scale, so that all may see them distinctly, and thus lead up to the drawing and painting from nature and objects, which is to follow the exercises in historic ornament.

In selecting natural objects for the subjects of lessons, fruits which are of one color, — such as the orange, lemon, and others of the same character, — first singly, and then grouped to give contrast in tint, are the best for early practice. And there is a variety of excellent materials for lessons in vegetables, so that with the objects and vases and other forms to be sometimes found in the class-rooms, or which may be brought there, there is ample material with which to give the one or two subject-lessons to each class during the term.

I need not go into further details of the work you will have to do when the responsibility rests wholly upon you for all the instruction in drawing given in the high schools; for the best illustrations I could give you will be in your own practice of that work here and now. The method of instruction, as applied to such exercises as we shall go through, is a new one, though it has developed as a natural growth from our experience in the lower grades of schools. It will no doubt be subjected to criticism both by those who practise other ways of teaching, and by some who know nothing of the subject, as new ways or new adaptations of old ways usually are. In this matter we are all pioneers, and have to be subject to the strain and the toil of travelling over new ground or on disputed territory with all the pains and penalties implied. But I have no doubt of the success which will attend your efforts, nor of the benefit to education involved by that success.

Finally, fellow-teachers of the high schools, I place myself unreservedly at your service the first three days of the school week, being advised by the Drawing Committee that this is especially the work of the year. I am obliged to say for the first three days only, because the last days of my week belong to the State. If, therefore, there is any way that occurs to any of you by which my knowledge of this subject can be brought to bear, so as to assist you in the work you have to do, please make the suggestion freely and fully, either by letter or at an interview; and, after consultation with the chairman of the Drawing Committee, I will endeavor to comply with your wishes. My own reputation professionally is at stake in this matter. I was called to my position here in city and State to organize a plan of instruction, and see it carried out in the schools. The progress made in the lower grades of schools now makes it possible to put the higher grades and evening schools into their proper places in the educational chain. It never has been possible before, because the pupils have not until now been prepared to take the more advanced instruction. But I think that, if you will allow me to coöperate with you, we shall be able next year to begin the crowning of the fabric, and thus carry out the decisions of the school committee with reference to the high schools. I have perfect faith in the wisdom and the practicability of the proposal, and those of you who do not at present share with me in this faith will grow into it. And, as perpetual growth is the sign of the living teacher, I take the liberty to hope that we may all live forever.

IV.—EXTRACTS FROM ADDRESSES BY PROFESSOR WALTER SMITH, DELIVERED AT MONTREAL AND QUEBEC.

INTRODUCTION.

In the spring of 1882, Professor Smith, his official relations to the public schools of Boston and the Massachusetts Normal Art School, having ended, as has been before related, had assumed the principalship of the "Conservatory School of Fine Arts," a department of the "New England Conservatory of Music," a large incorporated institution situated in Franklin Square, Boston.

At this time he was applied to, to deliver a series of addresses in the Province of Quebec. These were afterward published.*

The introduction to the official pamphlet, which is here quoted in full, details the circumstances of their delivery and publication:

> The Council of Arts and Manufactures of the Province of Quebec, being anxious to bring before the public and those engaged in teaching the best thought of modern times on the subject of industrial drawing, made an arrangement with Prof. Walter Smith [who is an artist trained at South Kensington, for twelve years head master of the Leeds School of Art, England, for eleven years State director of art education in Massachusetts, and now principal of the New England School of Fine Arts, Boston, United States] to give a series of addresses to the public and to teachers in Montreal and Quebec upon such phases of the general question as he deemed of most importance. They were delivered during the months of April and May, 1882, were well attended and enthusiastically received. Reports and abstracts of these addresses appeared in the newspapers, but as the speeches were generally extemporaneous, only abstracts were published. A desire having been expressed by teachers and others that the addresses might be preserved in a permanent form, the Council determined that the best record which could be obtained by them should be made available. A matter of so great importance as industrial art education is, deserves to be seriously considered by all who are anxious for the material and industrial development of the country, and though the records of these speeches are imperfect, they yet embody the leading ideas which inspired them, and the reports which were published have been revised in type by the speaker for this pamphlet.
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> In order to preserve the practical advice given concerning teaching (of which no reports were made) Professor Smith has, upon our request, furnished us with a copy of the notes from which he spoke, covering instruction during twelve years of school life, and these notes have been printed as received from him; the Council venture to hope that they will be found of practical use and direction to teachers.
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> Teachers of public schools and others interested in this subject may obtain a copy of this pamphlet on application to
>
> S. C. STEVENSON,
> *Secretary Council of Arts and Manufactures, Montreal.*

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* Technical education and industrial drawing in public schools. Reports and notes of addresses delivered at Montreal and Quebec, by Prof. Walter Smith (South Kensington, England), Principal of the Conservatory School of Fine Arts, Boston, Mass. Reprinted by the Council of Arts and Manufactures of the Province of Quebec, under whose auspices the addresses were delivered at the request of teachers and others. Montreal Gazette Printing Company, 1883. pp. 99. There was also an edition in French for teachers using that language.

The papers reprinted are placed in the order of their delivery in Montreal, and repeated in Quebec.

1. Industrial drawing.
2. Technical education.
3. Teaching drawing.
4. Household taste and principles of industrial design.
5. Notes and suggestions for teachers.

MONTREAL, *January*, 1883.

These lectures, addressed to the teachers of Quebec, naturally have many points in common with those delivered to the teachers of the several grades of the Boston schools, reprinted in this Appendix; the differences are of interest as showing the ready adaptation of the speaker to different surroundings. From the second lecture on "Technical education; its position in a public system of education," the following paragraphs, showing how essential it is that the germs of such training shall be planted in the elementary public schools, and further how futile is private effort to establish the educational machinery of a whole people, are as applicable in the United States as in Canada, while the recital of the work of Prince Albert, in inaugurating the successful movement of industrial art training in England is full of interest.

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The public day schools offer to all the benefits of a general elementary education, available to all, and to a general degree enjoyed by all. Academies and colleges and the schools of religious bodies continue this general education of the wealthier classes, until the universities and the medical, theological, and law schools complete their opportunities for a technical education to fit them for the professions and practical life. The general elementary education is to develop natural faculties, and give a broad basis for the future superstructure, the special education in which the individual is taught to apply what he has already learned in a particular direction. The public day schools do the first for all, and the higher schools and professional schools do the second for some—the well-to-do and the wealthy. But where is the secondary school which does for the mass of the people known as the artisan and laboring classes what the university, college, or professional schools accomplish for the upper classes? Can we afford to break off the education of the mechanic and laborer when as a mere child he leaves off his day-school instruction? What does a boy of fifteen know, if he then leaves school and goes to work? He is simply then the raw material of an educated man, and if there are no further opportunities given to him to continue his education, even whilst pursuing his work, he will never become in any sense an educated man. Yet it would be untold wealth to the country, and of indescribable benefit to him, if he could have as good a chance to continue his education from the general to the special or technical, that the young doctor, lawyer, and clergyman, already possess.

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PRIVATE EDUCATIONAL EFFORTS UNEQUAL TO PUBLIC NEEDS.

We are assembled in Mechanics' Hall, and mechanics' institutes, young men's institutes, evening drawing schools, and some technical classes have long existed in the several provinces of this Dominion, and have doubtless here, as elsewhere, done great good. But permit me as one who has watched this great question in another country similarly circumstanced to this, to say to you with all frankness and good intent, that these private or semi-public organizations will not provide a national remedy for a national deficiency. The question is too great, the matter at stake is too important to trust it to the efforts, usually feeble and often intermittent, of the few.

Mechanics' institutes did great work in England, though for a long time they were considered failures, because they did not attract and hold vast numbers of young men in their science and art-class rooms. They begin in the middle of the educational fabric, supplying a secondary education before a sound primary education in public schools was obtainable by all. But in another sense they always succeeded, for they demonstrated the need of a national and well organized system of public instruction, and prepared themselves to follow it up by technical education, as soon as the artisan and laborer were prepared by general knowledge to be so instructed, and now they are being successful, their class-rooms are filled, and the unskilled English artisan is rapidly following the dodo and other extinct creatures, and the English mechanic is an educated man.

THE EXAMPLE OF ENGLAND COMMENDED.

The same thing is not true of the Dominion as was true of England when Lord Brougham and Dr. Birkbeck originated mechanics' institutes, for Canada justly prides herself on her public school systems. But it is true that the schools of design and evening classes now in existence here are not as widely successful as they will be when the Dominion Government takes up this question of technical education, and takes it up in the same way the home Government did after the Sadowa of English competition with the world in skilled manufactures, which happened in 1851, at the first great exhibition in London. The prosy board of trade in London had been appealed to in 1836 by the English manufacturers to establish schools of design to elevate the products of English mills, and create a corps of skilled designers. Notice that the movement came from trade and commerce, not from artists and teachers.* It was not a sentimental demand from theorisers, but a practical request from business men. In 1851 there were 19 schools of design in operation, and the *concours* of the world showed what they were worth as agencies for the elevation of public taste and the promotion of good design. Nineteen schools teaching, and teaching very imperfectly, a few thousand workmen, in a population of many millions, could not be expected to have done much, and it was proved they had done comparatively nothing.

Then the British manufacturers were worsted and humiliated by French taste and skill. Then was Waterloo avenged in London, and the sword, which failed to do its horrible work at Mont. St. Jean, turned into the plowshare and pencil at Hyde Park was triumphant and victorious. With bowed head and a sense of national humiliation the English critic pursued his way through the French department, recognizing superiority in skill and beauty on all hands, to what he had seen in his own section of the display, and willing, like a true man, to acknowledge it and help to place a laurel wreath of victory on the brow of the nation which had not always triumphed over his people.

In the mind, however, of the true patriot it is as honorable to recognize defeat and applaud the victor as it is to strive for peaceful mastery in future contests, for no one but the blind bigot, who is not fit to be a leader of men, ever shouts, "My country, right or wrong." That is not a form of mind to be trusted which shuts its eyes and crows when badly beaten, or continues on the wrong road, the road to perdition, simply because it is already on the journey. No. Led by that great man, Prince Albert the Good, the consort of our beloved Queen, the nation went to work to remedy past deficiencies, to provide for a national system of education in elementary art and science, and to sustain the civilization of the country at its weakest point.

WHAT ENGLAND ATTEMPTED.

Every child was to be taught how to draw; every talented boy or girl was to have a chance; every stray genius was to be carefully husbanded; every mechanic to be given the choice of whether he would spend his evenings profitably in a school of art and science or waste it at street corners or even in more pernicious surroundings; and the master-pieces of the world's *concours* were purchased and kept in London as nest eggs for future use.

Thus practical men laid hold of a practical question, not by sighing or waving the Union Jack, as sham patriots would, but by the first steps in the path which led to future triumphs, when real patriots could float the flag of conquest over a thousand seas of industry, without shame and with becoming pride—and that day has arrived. And so to-day in Canada we want to recognize that in this young country, one which is an infant giant, looking forward already to a great place in the future roll-call of nations; we want to remember that there is nothing grows which is not sown; no effect without a cause; that no nation ever became great, wealthy, and strong by accident. We shall reap that which we sow; and if we sow nothing we shall reap nothing, either in the domain of agriculture or in the field of political economy.

TECHNICAL EDUCATION AN ECONOMICAL QUESTION.

The whole matter of technical education is an economical question; it is not a mere sentiment, but intensely practical. The wealthiest nations to-day are France and England, the two peoples who have done the most for education in art and science.

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* In this, Mr. Smith gives to "trade and commerce" undue credit for the inception of this movement, so far as he fails to record the fact that a great artist, the late Benjamin Robert Haydon, for thirty years had been agitating for this very movement, and was in close correspondence with Mr. Ewart, M. P., chairman of the committee of Parliament whose report led to government action. The first schools of design failed, because the methods of instruction, claimed by Haydon as essential, were not carried out. See Paper VI in Appendix A of this Report.—ED. ART REPORT.

The strongest nations are always, indeed, those who have made the wisest provision for the education of their children to develop in them a skilful, learned, just and fearless manhood; and such nations as do this will never grow old, but preserve a perennial youth of progress and greatness.

Perhaps you will say that, being an economical question, it does not belong to the domain of a teacher such as I am. But, I reply, it does belong to me and you and all of us as citizens. It is, I allow, essentially a statesman's question, and that is why in England the greatest modern statesman, Prince Albert, took it up so enthusiastically. Whilst the nomial statesmen and politicians were squabbling about who should vote "in a rotten borough, or so," as Tennyson puts it, he was, in the face of much misrepresentation, quietly laying the foundation for a movement which quadrupled the values and productivity of the manufactures of England; and all this in opposition to levity and misunderstanding, displayed by many in high positions. That is what I consider a statesman's action, as distinguished from the acts of a mere popularity hunter—the far-seeing conduct of a thinker, as contrasted with the trimming of party leaders—working for the good of a nation among those who were always jealous and sometimes hostile.

It would cover a man with glory to have done nothing else than create the science and art department of the English system of education, for that has led to a development of her productivity which is simply marvellous, doubled her exportations of valuable manufactures, and quadrupled her wealth and independence.

I have watched the unfolding of this wonderful scroll of national history and to some extent had a share in it; am therefore an eye-witness of the transformation brought about in this age by the wise foresight of a true thinker, and it is a rare pleasure to me here this day to bear my testimony to the wealth of evidence which has already placed a national monument in the English capital to the great benefactor who brought all this about. May his memory be ever as green in the hearts of the people as the grass round his mausoleum now is in Hyde Park.

"PROTECTION"—HOW TO SECURE IT.

We want to-day a statesman who will do for Canada what Prince Albert did for England—develop its natural resources and make skilled its unskilled labor; stop all her importations of manufactures by making her own products superior to any that can be bought outside the Dominion, and though it may not be done in a moment, if the foundations be well and truly laid, there will come a time when the flowing tide of invasion from France and England will be rolled back by native superiority, and the ebb tide of exportation of the products of native skilled labor will succeed. Protection is well enough when it protects. There is need to protect children when growing, and that is why Providence provides them with parents, I suppose.

Fiscal laws will, must, ought to protect the industries of a country until they can run alone. But there is a higher, safer, and more unassailable protection than tariffs, and that is superiority to the assailing party. There is no need to protect strong men from weak ones, for when they become men they put away such childish things. And when this nation shall have become strong on its feet, as it must and will, this Chinese wall of protection now built up in the custom houses, will be thrown down from inside, and Canada, resting on her broad lands and in her well-established factories, will open out her gates and say to all who want to trade with her, all nations who long to cross swords with her in the peaceful contests of art and science, "Come, and come if you dare."

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A PLEA FOR TECHNICAL EDUCATION.

Now, I want to make a plea for education in art and science, which together may be called technical education. Education pays. We recognize this by our public school systems, which provide a general education for the people. We recognize its moral advantages by building churches and keeping up Sunday schools, and we admit its commercial profit by the way in which we require all the more intellectual vocations to teach their members. The very safety of a nation depends upon its skill, not on its natural strength or geographical position, and skill is the result of training, not an endowment of nature. It is the brains of a nation which protect it, not the bricks or granite in its forts, and the gatling gun and rifled ordnance and armor-plated monitors of the skilled nations cannot be successfully met by the flint-guns of our ancestors, nor the good feeling which we ought to have to our neighbors. No country ought to allow itself to be out-educated. There is danger in that direction.

Given a healthy, strong man, what can we do with him? That depends on what we have done with him as a child. It is too late to begin when his habits are formed and the natural powers of acquiring new things are dulled by want of use. But we can provide against a repetition of the mistakes made, if by chance we should find our adult man, not having been properly trained and educated in his youth, is not so profitable a citizen as he might be—either for himself or to society. He has two weapons for work, his physical strength and his ingenuity, that which nature gives him and that which we develop in him by education. If he possesses the first without the second, he is but a poor creature; for steam and machinery have together almost monoplized the field of work without skill. If he possesses the second, it will almost compensate for the absence of the first, or certainly render the first of no absolute necessity. Both combined in one man make him master of the situation.

SKILL MULTIPLIES POWER.

Let us see how the account stands between labor and skill. We are born to labor of various kinds, and labor is but the application of force either with skill or without it. Labor without skill is the same as brute force, or the thoughtless work of machinery. If human beings are only trained to apply this force which they have in common with other animals or machines, then their labor is comparatively worthless, one horse being equal to three men, and one steam engine supplied with coal and water doing more than five hundred men could, and doing it without fatigue or any kind of distress. So the mere brute force in us expended in labor without skill is a very valueless sort of thing. Skill, however, employed in creative industry restores the balance of power in favor of human beings over beasts of burden, or even the steam engine. Skill may double, quadruple, or even centuple the value of a human being's labor. For example, suppose the labor of a house painter be worth $1 per diem, laying a coat of white paint, the labor of the skilled painter of pictures may be worth from $50 to $100 per diem, according to his skill. Suppose a man who saws or splits wood for the fire to be worth fifty cents a day, the man who splits it in very small pieces, and who is called a wood carver, may earn $50 a day with less trouble and more pleasure. Just in proportion, then, as our labor is performed with skill, it becomes less laborious and more valuable, and in the ratio that it lacks skill it is more onerous, less productive and less valuable. The acquisition of skill is therefore the multiplication of power, and this is of as much importance to society as to each individual composing society.

One great reason why manual or physical work is so generally looked down upon is because it is so often the mere drudgery of unskilled persons.

Make the manual work as much a matter of skill as is that of an artist, and then labor becomes dignified in the sight of all men. But a man harnessed to a dump-cart is a little less dignified and several times less useful than the sorriest of horses. He is employing those faculties in himself which are the least valuable and the least powerful, and throwing away the best and the strongest. By every step in education which increases a human being's skill, he is proportionately removed from a mere animal condition, made a more profitable servant to himself and society, and a happier and better man.

HOW TO CREATE SKILLED LABOR.

The great want of this country to-day is skilled labor, that is, economic power equal to that which enriches some countries of the Old World. The only way in which it can be generally secured is by the teaching of industrial drawing in the public day schools, and giving technical or secondary education in evening schools. Special art schools may do much in the continuation of the instruction given in the public schools; without such a basis of instruction the establishment of special drawing schools is a waste of money and will end only in disappointment; with it, they are a necessity to preserve the good already done. People who know nothing about this industrial problem talk about taking away drawing from the list of studies in the public schools as being unpractical. How practical they are as judges may be estimated by the statement that the wealthiest countries in the world to-day are those in which drawing is taught in the public schools, and the boy or girl who can draw well can earn twice the amount of wages by practising it that they could in applying their knowledge (obtained in the public schools) of any other subjects. * * *

From his third address on "Teaching Drawing" are taken a few practical words to teachers; his illustrations by simple, natural forms are full of suggestiveness.

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Study this art of drawing for your own enjoyment of existence, and to assist you in becoming good teachers. Draw upon the blackboard every lesson you give, for the blackboard is to education what the steam engine is to industry.

Some teachers do not use the board in teaching drawing, saying that they cannot draw well enough to illustrate on the board. This is an eminently illogical and silly way of looking at the matter. You might just as well say you will not go into the water until you know how to swim. What insane nonsense that would be! You go into the water before you can swim and in order that you may learn, and you must draw upon the blackboard, both as a pupil and a teacher, in order that you may learn to draw and learn to teach.

The Norman French have a proverb, "They forge well who forge," and it applies to all departments of human activity. They draw well who draw, and they teach well who teach; and you must draw long and much on the blackboard before you can teach in a masterly way, or even make yourself thoroughly understood in the language of form, to the world of thought and human consciousness. But philosophic teaching requires that we should go from the thing to the thought, create the true thought by observation and analysis of the actual thing. For the idea must always precede the work, the conception be ahead of the execution, be the *avant-courier* of the deed.

OBJECT DRAWING—TYPICAL FORMS.

Where this is possible, as in object drawing, always have the object before you and before your class whilst drawing it, and choose such common and familiar things to begin upon that your scholars know them from familiarity with them.

Here I bring you some good practical objects with which to commence your study of object drawing. They illustrate the geometric basis of Nature's craftsmanship, the simple groundwork of all her performances. The sphere, the one shape which never varies, however or by whomsoever seen, is the basis of this orange, the form which it most resembles, as an irregular form can resemble that which is regular, and this apple is also nearest like the sphere of all geometric solids. The way in which they differ from the sphere will be their individual character, which you may therefore know by comparing them with it.

Again, I take two common things, a fruit and a vegetable, the lemon and potato, and see that in their general shape they approach the form of an ellipse. So I should learn all that can be known of the ellipse, the regular form; and all I can learn is the proportion which the longer and shorter axes bear to one another, learn and practice the drawing of this exact form, in order that I may analyse and see the true character of objects based upon its general shape, which in nature are irregular or inexact, upon our human standards.

Then, again, I take this egg shape, this ovoid, as it is called, an actual, well-formed egg, and recognize in it another regular exact form, upon which many forms in nature and art are based, departing from the regular and exact in the ratio of their individuality and character. The human face is based on this ovoid form, and a personal likeness is the result of unlikeness to the form of the original geometric form.

The spiral curve, so cunning, mysterious, and beautiful, is a regular geometric line and the motive of much that is beautiful in art and ornament. Here we see it in nature, in this shell, a perfect spiral, and it is also to be seen in the fronds of ferns before they unfold, and in many other natural creations.

Nature is very scientific, and her work is always on a plan, and her inexactness apparent to our poor vision is only a higher type of regularity, a law applied with a subtlety past our human comprehension.

Still, if we examine in all patience and humility into the basis of Nature's plan of creation we find a simple, regular, and exact type, easy to recognize and possible to define, and her departures from these simple types are but the playfulness of her humor or to display affectionately the wealth of her resources.

So when we look at the sphere, the spheroid, the ovoid, and the spiral we see the starting points of much that is to be found in the world of form and the means of their analysis to learn the character and individuality which different types of form have.

OBJECT OF TEACHING DESIGN.

We teach design or arrangement in the public schools in order to develop originality of thinking and performance in children, not with the hope of making designers of them, for that is given but to the few, but to exercise the faculty of planning and forethought, which all human creatures have, and which is developed in so few.

I find all children are delighted with this exercise of designing. They have no lack of originality, but rather the reverse, for many of their works display an exuberant and almost fearful originality. Taking natural forms of leaves and flowers as subjects, and geometric regularity as a basis, repetition in rhythmical sequence as a guide, it is not only possible for very average children or people to make a fair design, but it is absolutely impossible to make a bad design, always remembering to use Nature's forms with scientific accuracy, and with the gentle grace of art.

In this art there should be full scope for originality, bad and good, a vent for all the perceptions and ignorance which children have, and in order that the teacher may see and know the habit of thinking and character of thought which the child has. For never let it be forgotten that a drawing is the evidence of a witness. It is our representations of ourselves, mentally; what we can see, what we know, and finally what we can express.

No human creature ever makes a bad drawing by accident. It is always meant, and it is the true thermometer of our powers of knowing and of doing. And thus, when a distorted or untrue drawing is made by a pupil, it displays ignorance, which is to be pitied, not blamed; weakness to be assisted, not wickedness to be reproved, and the teacher who has the divine instinct of service and leadership, will always regard the poor work of his pupils as an appeal to his love and help, not the display of waywardness to be corrected and chastised with impatience or anger. The good teacher is never angry nor impatient.

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In the fourth address—on "Household Taste and Principles of Industrial Design"—Professor Smith treats of the distinction between decorative and fine art, and explains in a practical way, with the simple directness and clearness of a thorough master and teacher, the underlying principles which separate them. As I do not remember that he has elsewhere so fully treated this important branch of the whole subject of art training, much of this address is here given:

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The words "household taste" convey to each of us the ideas with which we associate the comforts and adornments of our homes and the homes of our friends or neighbors.

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The very toys given to babies in their cradles affect their taste; and the savage barbarism displayed by some men in their maturity, in the houses they build, or in their knowledge of form, may be accounted for by the incipient influences of a more than usually atrocious Noah's ark, whose architecture and sculpture gallery formed the basis of their very early studies in art.

THE HUMANITY OF ART.

The foundation of household taste is laid deep in our very humanity, for a love of ornament is displayed only by human beings, none others of God's creatures having ever given any evidence of this characteristic, whilst no race of human beings yet discovered has ignored this craving for the ornamental, either in form or color.

The human race alone uses tools as a means of offence or defence, to provide for its physical necessities; and so surely as a tool or a weapon becomes the ready and faithful servant of the man it becomes also the subject of his love of ornament. The club or paddle or bow of the most savage race displays the rude effort at ornamentation which is the basis of all art. The Sandwich Islander, or the Caffre, differs from the artist of the age of Pericles in his style and subject only, not in his desire or aim; and the chief who requires his warriors to wear shark's teeth or eagle's feathers, and smear their bodies with startling colors, displays the same human faculty as that which prompted King Solomon or Lorenzo the Magnificent. Nothing else is so human in human nature as art.

There are many stages in the development of this human love of art, for it is one of many phases of civilization which go hand in hand together.

To beautify objects which are useful is the first stage, and thus ornamental art invariably precedes that which we call fine art, which is the highest development of the desire for the beautiful that seems to be the very birthright of mankind.

On that plane of ornamenting and decorating the things we love all men are brethren, belonging to one family; and it is a common possession which binds us together in spite of varying color, or creed, or race, or nationality, or form of government, or even of time. It is as universal as the edict which said, "In the sweat of thy *brow* shalt thou eat bread," not alone in the sweat of thy body, for the human creature is the only one which can be said to have a brow, and it is in the exercise of the brain upon which reasoning depends.

So that though some creatures are builders besides men, as birds, who unconsciously build beautiful nests, and many are engineers like the beaver and many kinds of insects, men alone are artists, and create and rejoice in the work of their own hands, made beautiful by their forethought, the sweat of their brows.

HAPPINESS AND ECONOMY OF ART STUDIES.

This effort to make the useful beautiful is only fulfilling our human instincts, developed beyond the animal state into a distinctively human feature, and it is therefore a privilege and an endowment which should be cherished as a great gift, and gratified as a higher form of necessity.

Love of the beautiful is indeed an exalted possession, for it proceeds only from a revelation made to those who become fitted to receive it, though human nature is always struggling after it in various ways and finds delight and happiness in the gratification of this yearning. Intelligent people will no more ignore this common desire of the human nature than they will refuse to recognize the wish to live, or the longing to be free or healthy. It is here in our midst, and we are all affected by it, and must therefore make the best we can of the affection, and profit by its direction in true channels.

The pure enjoyment and exalted inspiration which the study and appreciation of art will give to us is a sufficient reward in itself; but the civilization and progress and development of a nation are associated with cultivation of the arts of peace; so that the interests of refined and intellectual society and the material prosperity of our country are associated in this study of art, a union of enjoyment and profit as rare as it is delightful.

ORNAMENTAL ART AND FINE ART DEFINED.

That which is called good taste in art resolves itself very much into a true understanding and a proper recognition of the distinction between ornamental or decorative art and fine art, and it is through ignorance of this distinction, or on the false standards by which either or both are judged, that outrages of taste and consistency are sometimes produced or accepted.

Let us see what this distinction is, by considering the origin and aim of both branches of art.

Ornamental art is that which is applied to useful objects to increase their beauty and attractiveness without interfering with their use. Good design provides for, and good taste requires, that this element of decoration or ornament should never decrease in the slightest degree the service for which the object was made, nor destroy to the least extent its usefulness, convenience, or permanence; and it is bad design when this is done by ornamentation, and bad taste which approves of it when done. The object must be adapted to its purpose, be made of good material, and as permanent as honest work can make it, a necessary condition of being serviceable, and then if it complies with these requirements, the more beautiful it is the better.

In the order of importance, then, we should look for art in industrial objects to give us (1) good material, which means honesty; (2) good workmanship, which means skill; and (3) good design, which means taste; honesty, skill, and taste, resulting in the highest form of industrial art. Its origin and aim is service, true and faithful essentially, and then as graceful and elegant as is consistent with the nature of its office, but service to bodily needs, not to spiritual necessities.

A work of fine art, such as a picture or a statue, has an altogether different function. It performs no useful service for our physical wants, but exists only that it may appeal to our minds, exhibiting to us perhaps the record of a great historical or a distinguished person, or a practical rendering of nature's choicest gifts. Its service to us is intellectual, and it performs no menial duty.

CONFUSION OF THE TWO BRANCHES OF ART.

Here is then a clear field for the two branches of art, and each has its own language, limitations, and resources, which are not interchangeable, but radically distinct, in aim, motive, and performance. If these different purposes be confused, or an effort be made to design one object which shall discharge the functions of both, we shall be certain to see an outrage of taste, which no apology can excuse.

Thus a work of fine art, such as a statuette of the Apollo or Venus of Milo, having its head perforated, and screwed on by its neck to the body which is hollow, and made to do duty as a pepper-box, would degrade fine art and be an insult to good industrial art; resulting in a sorrowful statuette which use would disfigure and destroy, whilst it could only by courtesy be regarded as a convenient pepper-box, to say nothing as a matter of taste to the source of the condiment, suggested by its holder. One illustration is enough, though it is by no means difficult to find examples of such abominations.

The other way in which this misdirection is displayed is when a very humble thing of use attempts to be also a work of fine art, by imitation of nature. Thus even the handle of an umbrella may be made an instrument of torture by being carved into the likeness of an animal, the rough surface of whose hide, or the angular projection of its limbs and head, lacerate or irritate the sensitive hand every time the handle is held firmly, for the use it was made to serve.

As a rule no useful object should be ornamented by direct imitation of nature; but natural forms, well chosen for the purpose, should be conventionalized and ornamentally treated by symmetry and repetition suggesting its source and origin only; whilst in works of fine art, nature must at all times be both the source and standard of excellence.

FURNISHING.

Furnishing a room so that it will be a place to be in, have an agreeable influence upon us, both mentally and physically, and never go out of the best of fashions, and true taste, resolves itself into (1) a knowledge of the harmony of color; (2) a knowledge of the principles of good design as applied to each object.

We will look at both these sources of good taste, and try to find out by the exercise of observation and common sense what seems to be their law and order.

ON COLOR.

The general effect of a room will depend very greatly upon the color employed on the ceiling, walls, and floor, and these should be considered as a whole and made to harmonize with each other, as well as with the furniture and other objects in the room.

There is a grammar of color as fixed and unchangeable as the law of harmony in notes of music.

If you touch the harmonic intervals on a piano with knowledge and skill, you produce chords which are harmonious and agreeable; but if you strike the key-board with the clenched fist, or sit upon it, you produce discord.

So with color; if you associate certain tints in definite proportion, you obtain harmony and pleasing effect; if you jumble all the colors together without law or knowledge, the result will be discord and physical and mental irritation, the same though acting on another sense as when you assaulted the piano.

The senses of sight and hearing have their rights, which cannot be outraged without inflicting pain on the individual.

NATURE'S PALETTE.

Nature is our best guide in the use of colors, and those tints, hues, and shades which we find prevailing in one position in nature, will never be disagreeable or out of place when employed in a similar position in the decoration or the furnishing of a room.

Let us apply this.

How should we use color on ceilings, walls, and floors?

Suppose we look at nature's palette and see what she does in the way of chromatic decoration.

THE CEILING.

Take the natural ceiling, the sky, to begin with. What colors do we find there? Blue backgrounds, red clouds, yellow sun, with the neutrals white, gray, and gold, in clouds and sunshine.

Then blue, red, and yellow, with white, gray, and gold ought to be the right coloring for a ceiling, modified as to tint and tone and hue by the knowledge of the use which the room is to be put to.

It is impossible to furnish a room harmoniously if the ceiling be white, or if curtains or hangings of any kind be white; for either black or white in any quantity in a room will make impossible any harmonic results. The prevailing color may be a tint of red, blue, or yellow, according to the taste of the person who is to occupy the room, or the use of the room; but, this being decided, the rest of the room should be furnished to carry out the scheme of color, of which the ceiling strikes the key-note.

Avoiding the controversies of the color-maniacs, we may still be allowed to call red, blue, and yellow the *primary* colors.

THE WALL.

Come next to the walls.

Between heaven and earth, the predominant colors in nature are seen in the green of trees, in the purple of distant atmospheric effects, and in the orange color of clouds at sunrise and sunset. These colors, green, purple, and orange are called *secondary colors;* and, together with admixtures of the neutrals to produce tints and tones, should be used on walls, letting the secondary wall color harmonize with the primary ceiling color; thus, if the ceiling be a tint of blue, the wall should be a tone of orange; if the ceiling be pink or salmon color, a tint of red, the wall should be a neutral green; if the ceiling be yellow or cream color, the wall should be purple in tone.

THE FLOOR.

Then comes the floor.

Beneath our feet in nature we shall find the tertiary colors, the russet and citrine of the earth stains, and the olive of grass shadows, relieved by small bright spots of the primary colors, red, blue and yellow, in flowers.

So according to this natural system, the color of floors, whether of wood, tiling, or carpeting, ought to be subdued and sombre, with small and infrequent bits of bright colors to relieve the dullness of the general effect, and produce the appearance of bloom, as in a field of flowers.

RÉSUMÉ.

Here, then, is a simple guide; on the ceiling the primary colors and neutrals, red, blue, and yellow, with white, gray, and gold; on the walls the secondaries, green, purple, and orange, with tones and shades; on the floor the tertiaries, russet, citrine, and olive, relieved by points of the bright colors.

Above us, bright colors, opposite to us the middle colors, beneath us the dull colors.

There is a certain sort of symbolism and significance in this scheme of color, and it certainly is nature's way of painting; so that I think we may safely trust to it. I am not prepared to say that no good decorative effects have ever been produced except on this scheme, but I do stand here to assert that harmonious and pleasing results may certainly be secured by keeping in mind this system of color for decorative purposes; that blue ceiling, orange or brown walls, and olive floors; or red ceiling, green walls, and russet floors; and yellow ceiling, purple walls, and citrine floors, will be in nature's own harmony; and if colors, tints, and tones be matched with care and taste, the rooms thus decorated will never be out of key with true taste. It follows, of course, that furniture and its covering should be chosen so as to carry out this key note, and pictures and ornaments will then be seen in their full importance.

ORNAMENTS.

Here, however, I would like to observe that nature does not seem to concern herself much with ornaments as ornaments, though all her work is highly ornamented with fitness and beauty. Life and use and purpose she does seem to pursue with a refined loveliness of style that only the few ever perceive, but the nondescript thing called an ornament does not exist in nature; for as soon as the graceful and lovely thing which nature makes use of for certain purposes of her own, ceases to be of use, she quietly buries it out of sight, transforming it to other purposes and other needs, fertilizing the productive powers of the earth with the beauties of the past, and offering the repose of decay to fructify the energy of the future vitality.

There is a grim and awful deadliness of purpose about this which teaches us that our chimney decorations and mantel-piece ornaments are frivolities; that as soon as an object is too good to be used it ought to be buried; for the useless, in nature's scheme of action, whether decrepit men or faded peacock's feathers shed from the last moulting, are simply interred in nature's economy.

Who was it said that—

"Imperial Caesar, dead and turned to clay, may stop a hole to keep the wind away."

Very irreverent, whoever said it, but just and awfully true to nature; for whilst all her works are ornamental, such a thing as an ornament, irrespective of some economic use, is absolutely unknown to her, and the ashes of the past are always employed as fertilizers of the future. As if nature, with all her wealth, could not afford to maintain deadheads or encumbrances, but requires of all her creatures either life, or the materials of life.

I have been led into this line of thought by the very comical vagaries of the people who have been called esthetes, who nail up on vertical walls, which were intended to display pictures and engravings, porcelain plates, which the sensible people who made them intended to be placed horizontally on the table, to be sensibly used. Believe me, there is no half-way house between the honest service of an object of industrial art, like a plate, made to be used, and a work of art to be placed on a wall, made only to be seen. Hoist up at the mast head the flag of our country by all means, and nail it there, when necessary, but do not run up the round towel, or handkerchief of our ancestors, because they made it and we respect their taste.

BACKGROUNDS AND PICTURES.

The wall is a background, to give soothing color to the eye, if left bare, and to display pictures if placed upon it. Distinct lines, either vertical, horizontal, or oblique, should be avoided in its covering, and if paper hangings be employed, no pattern which is discernible in the middle of the room should be tolerated. Least of all should any prominent or distinct color ever appear upon it, or appeal to the eye or intelligence for consideration in competition with the pictures, or indeed with anything. The veriest curse of our time, both in design and in life, is the desire to be prominent and important; as if there was no wisdom or truth in the edict, that he who would be the greatest and chief amongst us should be the servant of all.

A wall decoration, either in fresco or paper, and a carpet or floor-covering which attracts attention either of the eye or the brain, are impertinent and out of place, interfering with things of more importance, and destroying the harmony of effect which they ought to subserve.

Upon the wall of my house I hang a small picture, which has cost at the rate of ten thousand dollars a yard of superficial area, and I want neither fresco nor paper hanging, worth, perhaps, ten cents a yard, to obscure it from my vision. Around my hearth I gather my friends or my children, and I want no tapestry carpet, with its bouquets of flagrant flowers, its scarlet inflammations or its cerulean blues, or golden rays, to make them invisible or unimportant to me. And so in the interests of good taste and of common sense I should regret all decorations of my home which, under the pretence of being brilliant, sacrificed my choicest treasures.

RIGHT PRINCIPLES IN DESIGN.

The second element in the formation of taste is a knowledge of the elementary principles of good design, acting as a guide in the choice of tasteful objects. The general effect of color in a room is of the first importance; the character of the design shown in the objects comes next. A short epitome of some principles accepted by the most cultivated authorities should here find a place, and are therefore now recapitulated.

Carpets and wall-papers.—As before stated, both the wall and floor are to be considered as back-grounds to display pleasing effects of color, and help to furnish and give character to the room. The surfaces of wall and floor are flat, and it is essential to both comfort and safety that a floor should be flat. Neither wall nor floor should have ornament upon it which, by its shading or perspective effects, destroys this appearance of flatness. Therefore, bouquets of highly-colored or shaded flowers, landscapes, animals or birds, which suggest distance, destroy the first essential of wall or floor, flatness of surface. All direct imitations of nature in wall and floor decoration are wrong in principle. The floor is a horizontal plane, and the carpet pattern should not lead the eye in any one direction more than another. A carpet design which has a right way up or a wrong way up, will be reversed half the time or to half the people who look at it. The wall, on the other hand, is a vertical surface, and the design may properly have a vertical tendency or growth; if it has any, though an all-over pattern, as designers call it, such as is necessary to a floor is equally suitable to a wall.

On the floor there should be no white, and on the ceiling no black. On neither wall nor floor should the pattern ever lead the eye in any one direction by prominent lines, or pronounced features appearing at regular intervals; for this is fatiguing to the eye, and if upon the wall, will destroy the effect of pictures.

Wood work—Furniture.—As a rule, the most beautiful effects obtainable from a right treatment of woods will be found in a strict preservation of their natural color and grain, which is quite practicable when wood is protected from the action of the weather, as it is in a room. A stain is less objectionable on wood than paint or opaque pigment, for the stain leaves the grain visible; but a clear transparent varnish or polish which leaves both native color and grain, is preferable to either stain or paint.

According to the nature of wood its strength and service can only be secured by respecting its growth and structure. Wood is fibrous, and its fibres run in straight lines, generally. Cutting across the grain destroys the strength of the wood, and thus curves which are used to ornament furniture generally weaken its ability to serve. Straight-lined furniture in wood is both stronger and in better taste than curved, and in the constructional portions the straight line is a necessity. When, however, wood is steamed and bent, allowing the fibre to run from end to end of the piece used, it retains its strength in the curved, as in the straight line. If carving be employed, it should never be permitted on parts requiring strength, or constructional parts, nor be in any portion where use would wear or destroy it.

On general principles beware of curved or carved or highly ornamented wooden furniture, especially of chairs with curved legs, for their moral character is untrustworthy. Our ancestors who believed in high and straight-backed chairs had the right idea about the proper use of wood; but they were upright people, with backbone, who could endure unto the end; unlike the people with gelatinous spines of modern times who need "sleepy hollows" to fit their crookedness and love of luxury.

Crockery ware.—The love of ornament being human, it is but natural that ignorant people should run into excess in their use of it. In dress this is called finery, and finery is essentially a vulgar, repulsive thing. Some objects should not be ornamented at all, though they may be made beautiful in form. Let me illustrate this by a criticism of two pitchers. A pitcher is a vessel used to contain liquid, which should be easily put into it, and poured out from it through its appropriateness of form. It must stand firmly; its handle must be of a size and shape that it can be securely carried, and its spout capable of directing the stream, when poured out, to the place where it is required. Its mouth should be large enough, so that the human eye can see every part of its inner surface and the hand reach it for the purpose of cleaning it, for cleanliness is essential to its service. A good honest pitcher which is capable of this, and having also a thoroughly impervious glaze, so that no absorption of its contents is possible, is what we require for practical use. Anything added to such a vessel, for the sake of ornament, must not interfere with the primary capacity for service which has been described.

EXAMPLES.

Here is one pitcher which is ready to do just what is wanted, but it has no ornament of any kind on it, though its shape is agreeable, and here is another not absolutely white, like the first, which has a modest form of ornament in the shape of colored lines, and simple repetition of conventional shapes, and it is equally faithful in its offer of service and pleases the eye by the relief of its color.

Here again is a thing which is sold as a pitcher, though it is really first of all a statuette of a codfish, its tail twisted backwards and joined to the middle of its back to form a handle; it stands upon its stomach, and its open mouth is both spout and mouth of the pitcher. Colored with all the skill of modern pottery and glazed successfully, it looks like a fish just taken from the water, going through the paroxysms of its dying agony. You take hold of this slimy-looking fish by the tail, and through its locked jaws pour out from its internal economy the liquid which you are supposed to need. If you look down this cavernous throat into the hollow interior, there will be found a mysterious tunnel, which turns up the tail, that no eye can ever reach, and where impure accumulations may exist not conducive to the purity of the contents of this vessel, had they been originally pure, which their surroundings would not suggest.

Can anything be more disgusting than this idea; could a more inconvenient or unsuccessful pitcher be designed?

This is the crime of pretentiousness; the desire to be more important than your business warrants, to posture before the world as a work of art, when you set out with the intention of being a useful pitcher; between these two stools you fall to the ground, for you succeed in being neither useful nor beautiful.

PRINCIPLES.

Such outrages as these are not rare, and the principle which is violated is the same in all, viz: common sense, utility, and fitness, sacrificed to show and pretense.

Simplicity is a characteristic of refinement, adaptation to purpose a condition of useful and faithful service, and proper subordination of parts to the whole; each part or object keeping its place and being equal to it is necessary for harmonious results.

Strong and permanent workmanship on sound and honest materials, with simple and refined taste, will produce objects that will satisfy both body and mind, the useful and the beautiful, and never go out of fashion; for age will only add the interest of antiquity until affection enshrines them as household gods.

The cabinets, chests, and oaken furniture which we see in museums and collections, and the pottery and glass which are so costly and precious from their beauty and antiquity were created in this spirit and on true principles, and have arrived at the inevitable appreciation which is the just due of honest and skillful workmanship; after giving pleasure and service to their original owners, whom they have outlived, they represent their taste and habits to their posterity, to whom they are a precious possession.

INFLUENCE OF ARCHITECTURE.

The revival of gothic architecture in this century has given great encouragement to honest and skillful workmanship in industrial art. The stained glass, metal work, encaustic tiles, wood and stone carving, embroidery, surface decoration, and other ornamental accessories required in the sanctuary or the civic temples have created a love of good and sterling work which has spread to the domestic hearth, and has completely changed the standards and ideals by which household furniture is judged. This change is for the better, and the constantly spreading interest felt in art education has developed a constituency capable of appreciating the improvement and being affected by it.

The best results may be anticipated from this great change, and it will become yet more universal. Lord Beaconsfield once said, at the opening of some model lodging-houses for workingmen, that he had no doubt most people ate too much, some drank too much, but it was impossible they could be too well housed.

The influences of home being so potent, as we find them, affecting the life character of the people subjected to them, there is a responsibility in furnishing a house that becomes even moral. The tasteful parent will discard all shams and pretentious things, all excess of ornament and vulgar ostentation, and see that, from his pictures down to his plates and pitchers, every object in his house is sound and strong, skillful and beautiful in simple taste, trustworthy and lasting, just as in another way he would like his own children to grow up to be in their characters and dispositions and life.

GENERAL PRINCIPLES.

Though household taste affects everything which goes to furnish a house, it is only possible in this talk of an hour's duration to refer to typical illustrations, which may be considered as test or representative cases. Unquestionably more bad taste arises from the confusion of the distinct scope and field of ornamental or decorative art and of fine art than from all other causes put together. Once get a clear perception of the purpose, language, resources, and limitations of works of purely fine art, recognizing their essential difference from the same features in industrial or decorative art, then see how the character, fitness, and beauty of either is destroyed by attempting to invade the domain of the other; how fine art is desecrated by utilitarianism, and how an industrial object becomes a pretentious sham when it aspires to be above its usefulness as a first condition of existence; and then the whole horizon of household taste becomes luminous with principle, and its details can be applied and understood in all varieties to theme or subject.

This distinction of treatment and language is so important in a correct estimate of the character of the two branches of art, that I have been accustomed to impress upon students the following comparison of similar features in both, as showing their distinction and difference of resources and character.

The language of industrial and fine arts compared and contrasted.

Industrial art should be—	Fine art should be
1. Ornamental, and not	Pictorial.
2. Conventional, and not	Natural.
3. Geometrical, and not show	Perspective.
4. Repetition (al)	Variety.
5. Symmetrical	Non-symmetrical.

Language, much less single words, can hardly convey accurately that which is so much a matter of sight, but here are illustrations which will convince you how generally true this table of distinctions is.

ILLUSTRATIONS.

Here, for instance, is a paper-hanging, and there is a carpet, both in the best of taste, the design on both being (1) ornamental, (2 conventional, (3) geometrically arranged, (4) patterns are frequently repeated, (5) details are symmetrical, and in no part of either is there any attempt at shading, which would destroy flatness, or bright color, which attracts attention to one place more than another.

Here, again, to compare with these good examples, are a paper-hanging and a carpet which display all the characteristics of works of fine art, coarsely reproduced by block-printing or weaving, and they are as wrong in principle and as nauseating to look at as cheap immitations of better things usually are; they display (1) pictorial treatment of flowers and landscapes and birds, (2) naturally treated and colored, (3) perspective and shading giving distance and effect of holes through walls and floors, (4) variety, and (5) absence of linear symmetry. All these features give them the character of works of fine art, yet if they are judged by its standard, each wearisome unit becomes an offensive vulgarity.

On the other hand, a picture which ignores the five essentials of a work of fine art, or even approximates in its treatment to the ornamental or decorative features of industrial art, loses its high character and chief value. But I hold in my hand (1) a true picture, (2) drawn from nature, (3) in skillful perspective, (4) showing nature's own variety, for no two parts or even touches are alike, (5) and though well balanced as a composition, every part and the whole is non-symmetrical. It is a gem by a great artist. Yet if this picture were chromoed and repeated as part of a wall-paper round a room it would become an unbearable nuisance. The picture-frame which contains it has all the five features of good industrial art, and is eminently satisfactory and in good taste—a fitting industrial setting to an artistic jewel—each keeping its place and giving value to, because not competing with, the other.

DEMONSTRATION.

Regarding this picture as worthy of being seen, I place it now on the wall covered by the modest background, wall-paper, which I have described as being in good taste, and you will observe how distinctly we can see it, and how the cool sage-green paper on the wall brings out into prominence the brilliant work of art, and soothes the eye whilst we look at it. This, again, is true subordination of the lower to the higher, an ordered harmony of action and effort.

But let me place it on this wall, which is covered by boquets of scarlet flowers and radiant prismatic humming birds, and the refined work of art disappears and fades away by the comparison, whilst only these monotonous inflammations are left visible as a substitute. Thus the higher is sacrificed to the lower, and the competition between the two results in jangling discord. [The lecturer, at this point, introduced many useful objects, and criticised them before the audience as being in either good or bad taste, explaining his reasons for praising or condemning them.]

COMMON SENSE IN CRITICISM.

In all these selections you will observe that only very common objects have been taken, for it has been my endeavor to explain and illustrate principles which depend on common sense or mother wit, which we are all supposed to have, and which enables us to understand much that is necessary to our happiness, if our critical attention be called to it. But the application of these principles with judgment and knowledge will enable you to form a just and reliable opinion on every branch of industry, or even of fine art, sufficient at least to protect you from inconsistent or conspicuous examples of bad taste.

Without allowing ourselves to be taken captive by the languishing esthetes, there is no reason why good taste, that which is to many an undiscovered realm of pure enjoyment, should not become our daily possession, as it is our undoubted birthright, enabling us to make our homes beautiful.

I would distinctly claim and impress upon you that there is reason and consistency in those principles of design which determine what is good art or bad art, and that some art has a healthy and improving influence upon us and some affects us detrimentally; and that this is caused by the operation of laws to which our senses and minds are subject, and in the ratio of their sensitiveness and powers. For though the operation of these laws may be more subtle than some others, yet they exist as tangibly as the law of gravitation and are as little matters of opinion as the action of the tides.

THE REIGN OF LAW.

Indeed, we are gradually being educated into knowing that law and not accident governs the universe and all it contains, thoughts as well as things. Nature is really very scientific in her methods, and from the same causes produces the same results every time. She never appears to resort to specifics of rule of-thumb processes, but goes to work in the same old scientific way, and leaves us to call it what we like. When by long and patient study we sometimes discover one of nature's very simple laws we call it by a proper name, and understanding more or less the pheuomena which arise from the operation of that law, no longer describe them as accidents.

But if ignorant of the law, we employ such names as mystery, miracle, accident to hide our ignorance, and having labeled the phenomenon with a no-name, go on our puzzled way rejoicing. Only, as a matter of fact, the mystery, miracle, or accident arises from the operation of law all the same.

THE MINISTRY OF ART.

So there is a law of musical harmony, a law of color harmony, a law of fitness and consistency in design and taste, based on nature's works and adapted to satisfy in an intelligent manner man's necessities, whether physical or intellectual, and be his faithful minister. The ministry of art, to be permanently gratifying and perennially fragrant and beautiful, must be based on the true poetry of scientific truth, recognize and comply with this principle of law and order which permeates the universe, be beautiful in its expression, consistent in its means, and elevating in its tendencies. So also with industrial art, upon which household taste depends for its means of gratification. It must find out and apply laws of construction and adornment, as the architect and designer has made and applied them, first keeping strict faith with our physical necessities by furnishing honest material and skilled workmanship, before it undertakes to show us how elegantly its service can be performed—not by its pretentious effort to be important or pass itself off as something better than it is, competing with the purely mental office of fine art, and so beguile us into a misplaced confidence as deceitful as the dead sea apples, and as disappointing.

FAITHFUL SERVICE.

The first condition of service is that it shall *serve.* Next, that it shall be as graceful and attractive as is consistent with its office when adapted to its purpose and fit for its work, for then the necessities of the body are ministered to and the aspirations of the human mind are satisfied.

This may be illustrated by the way in which the common-sense critic would test the worth of an object, as a purchaser might before buying it, by asking himself these questions:

Will it last? *Honesty*, first, of material, is the answer.

Is it convenient and well made? *Skill*, next, in workmanship, is the answer.

Is it attractive looking? *Beauty*, last, in adornment, is the answer.

Having asked each of these questions, let him look for that which is the only true answer, and if he finds it not, refuse to be a buyer. It would be attic taste to subject everything that was offered for sale, and that you wanted to buy, to just such a customer's catechism as that, for sound and good manufactures would be benefited by it and pretentious frauds would be killed.

INDUSTRIAL ART ALONE CRITICISED.

You will notice that I have purposely avoided dwelling fully upon the canons of criticism applicable to works of fine art, as being relatively unconnected with this subject, which is broad enough in itself.

CONCLUSION.

There can be no doubt that good taste in the adornment of a home is no more costly than good grammar in speaking and writing, but it does cost as much to acquire as thorough a knowledge of one as of the other. The most suitable and comfortable and tasteful things are not always the most expensive.

The wealthy man can, as a matter of course, secure for himself a more luxurious home than is possible for the poor man, but there is no reason why, according to his means, every man should not display good taste in his surroundings, on his own hearth. Art was once the privilege and luxury of the few, just as power was their prerogative and learning their monopoly; and except in public places and buildings it may yet be the case that fine art and its masterpieces may be beyond the reach of the many as a personal possession.

Yet this household art, though more humble in its aim, may be as general as are the homes of the people, and add to their happiness by its influence and associations, for taste is to the home what politeness and good manners are in human conduct — a question of knowledge, not of expense. The tendency of modern times is to increase the popular knowledge and intelligence by education, to distribute power and political influence among the masses by broadening the basis of representation and making the people the judges of all important questions.

So also the greatest modern movement for the elevation of the majority and the increase of the wealth of all, is that which is now encircling the whole world in its action, the effort to add to the general education of the people the opportunities for education in art and science.

This is rapidly affecting popular taste in all countries which participate in the movement, and its results will be the diffusion of greater personal comforts and enjoyment of life through all classes of society by an increase of their productiveness.

There are some things so precious and good that a man who possesses them for himself cannot wholly enjoy them unless he shares them with all, and when they exist for one there is enough of them to go all round — such as liberty, equal rights, pure air, education, commercial integrity, good government.

In this young and progressive country, broad enough, naturally rich enough, and strong enough, if developed, as it will be, to become the home of a hundred millions of men — free, prosperous, and cultivated, independent, fearless, and powerful — I venture to hope that the material prosperity which smiles upon it will be sweetened and consecrated by a love of the beautiful, equal at least to the patriotic pride its people feel in being part of the greatest empire on which the sun ever shone, and that every man's house being his castle it will possess, from the threshold to the hearthstone, from the foundations to the roof-tree, the comforts and refinements of a solid prosperity and of a true household taste.

VI.—TWO LECTURES ON DRAWING IN PUBLIC SCHOOLS.

[One, delivered in Worcester before Massachusetts Drawing Teachers' Association 1881; the other, in Saratoga before National Education Association in 1883, by Walter S. Perry, supervisor of drawing, Worcester, Mass.]

The following address, which is a practical talk about methods of teaching drawing addressed to teachers by a teacher, will, it is believed, be found of interest and use to all who are endeavoring to teach the study.

FIRST ADDRESS.*

Ladies and gentlemen, co-workers in this broad field of art education: I do not understand that we are here to-day to prove, or to attempt to prove, to any one the value of drawing as a study in the public schools; we know full well the great practical bearing of this subject. Nor are we here to theorize; we have all had experience. Let us put our experiences together; let us become conversant with each other's successes, and go away better prepared to carry on our work with patience and perseverance, to the important practical and educational end desired.

I have been asked to present the subject of drawing in public schools. In doing so, I may pursue a line of thought entirely at variance with that expected of me. I must speak wholly from my own experience, and therefore must of necessity refer constantly to work done under my own direction. Please not charge me with egotism in so doing. I cannot well treat the subject differently.

During my experience of nearly seven years in day and evening schools, I have done more than to teach the teachers, and dictate through them what should be taught to the pupils. I have met the children. The half-hours of every day have been spent in giving full lessons in all grades of schools, from the lowest to the highest (excepting the two lowest primaries for the past two years). I have endeavored, by giving lessons myself, to learn what children of all classes can do, and how they can best do their work, in order to reach a desired end.

I have seen how some teachers of the different grades succeed in that in which others fail; and after a personal contact, in the two cities where I have taught, with at least 20,000 pupils, whom I have followed in their work week after week and month after month, I have come to the conclusion that there are some very small matters—small because their importance has never been enlarged upon—that are doing more toward making drawing a success or a non-success in the public schools than many are aware of.

It is my purpose to dwell mainly upon these smaller matters; and I hope that what I have to say will provoke much discussion, that we may get at the truth.

Exceptions may be taken, and I expect will be taken, to some things I shall say; but we must bear in mind that in dealing with children in large classes, sometimes from fifty to sixty in a class, and with a limited amount of time, some things must be done in a different way from what would be done in much smaller classes.

SCHOOL PERIOD.

Children, as a general thing, are expected to spend nine years in the schools below the high school. As we may wish to refer to work done in the different years, let us understand that when speaking of the first year or first grade, we mean the very lowest primary; and when we speak of the ninth year or ninth grade, we mean the highest grammar grade.

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* The Teaching of Drawing in Public Schools. An address delivered before the Massachusetts Drawing Teachers' Association, December 29, 1881, by Walter S. Perry, supervisor of drawing in the public schools of Worcester, Mass. Boston: L. Prang & Company, 1882. pp. 30.

DRAWING ON PAPER.

Before saying anything about slate work, which really comes first in order, I shall, for certain reasons, speak of work done on paper.

In what grade ought children to begin to draw in books?

This question has been asked of me many times. By the conversations that have followed, it seems to me that there is a tendency to withhold books from the children too long; that is, not to introduce books into as low grades as they should be introduced for the best good of the children in their future development.

In Worcester, two years ago last September, drawing books were put into the fourth grade as the lowest. Soon after the same books were placed, and have since been used, in the third grade. What of the results? The work in the third grade throughout the city averages better than that of the fourth grade two years ago, and a whole year has been gained.

The children are of such an age that they are interested in drawing lines simply. They are fascinated with the idea of having books and pencils, and have not reached an age when far-seeing parents have discovered and informed them that they cannot learn to draw.

What kind of work are we to look for in this grade among these young children?

I have seen a statement to the effect that we must not expect children to do otherwise than to spoil their first papers or books. But I most thoroughly deprecate this idea. After an experience with so many thousands of pupils, and seeing how easily good work can be secured, I say with emphasis, Make the first book a complete success.

The exercises should be so very simple that this may be accomplished; for it is of the utmost importance what kind of work the child does on the first few pages of his drawing book.

Drawing is not yet looked upon as it should be. It is not classed with other fundamental studies by the uninformed. Some teachers have even yet the idea that it requires a special talent to learn to draw. They have yet to learn the truth of what many teachers have lately said to me, "With scarcely an exception, the drawing books in my room will show you just what kind of work the children do in everything else."

I have often said to teachers, "I would rather have good drawing in the third grade, where books are first used, than in any other grade in the city, for the present."

My reason is this: If the child draws the first page well, he feels at once that he can learn to draw. Seeing one page well done, he does better on the next, and so on through the book. The reverse of all this follows if a poor beginning is made; it is almost impossible to create an interest afterwards. The pupil gets the idea that he can't learn to draw, and as I have just said, so many people do not yet understand the subject, he may have an influence at home that will all the more lead him to feel that he cannot draw; and who shall say that this influence is not far greater and more lasting upon the child than any a teacher can possibly have? How often have I heard these words: "Mamma says I can't draw"!

There are two classes of schools under my observation. Some of them, three years ago, made a very bad beginning. The pupils made heavy lines, and nearly ruined the books in drawing the first few pages; and yet they spent three and four lessons on a page—one lesson, or two at the most, being ample time. These pupils were talked to, reasoned with, and every effort made to interest them; but they began wrong, and I can show the work of these same children to-day, after having passed under the influence of two or three other teachers, and it is of a faulty character still, or does not show one-half the improvement that ought to be shown.

On the other hand, I can show the drawings of those pupils who were taught to do good, careful work at the outset, and to make light lines on the first pages. They too have passed under the influence of other teachers, better or worse; but they still do excellent work, work that shows a steady improvement. They are interested. It has not been half the trouble to teach them, and their work will average fully 50 per cent. higher than the others mentioned. They learned at the very first that they could draw; this fact was established, consequently they never labored under that adverse home influence I have referred to which works so much mischief. The children were converted before they knew what it was to be converted. The parents followed, and were convinced before the question even came into their minds whether their children could draw or not.

Many times parents have said to me something like this: "I was much pleased with Willie's first drawing book. I did not suppose he could draw; but really, it seems to me that he does very nicely." What will the average child do after hearing such words as these? Will he not exert himself the more? It is useless for me to answer.

I have been interested to examine the books of these children on my next visit to the school after such conversations with parents, and have often found the work not above the average. The regular teacher had taught every pupil to make a good beginning, and every pupil's parent thought the child possessed of the so-called talent; the talent, though of a different kind, lay with their every-day teacher.

LIGHT LINES.

Let me here speak of a few things which seem to me of much importance in the production of good work in the first book.

I have perhaps already covered this subject in what I have just said; but we cannot overestimate the importance of teaching children to make light lines at the beginning. The children should be taught by word and by example, and if necessary by a line drawn in each book, just what is meant by a light line. All children can be taught to draw light lines, and they can be taught to do it easily.

There are teachers who always succeed in getting light lines on the first page; and afterwards the work goes on easily, rapidly, and successfully, and the books are usually completed long before the required time. I find this to hold true; if pupils are taught to make light lines, they will, as a general thing, learn to do all their work well. On the other hand, if they make heavy lines, they are sure to do their work poorly.

USE OF THE ERASER.

Much care should be exercised in the use of the ersser; many books are spoiled through its over-use. Pupils should be allowed to use the eraser only when permission is given. Its free use begets slovenly habits and indecision in drawing. Pupils begin their exercises without deliberation, and finding that their lines are not correct, they try again, draw a line in part, stop to erase, draw again, and so on, till they have lost sight of the form, spoiled the paper, and become discouraged. When exercises made up of several lines are drawn, the eraser should be used at different stages; but in no case should young children be allowed the constant use of the rubber.

By withholding the eraser, and requiring good work, children can be taught to exercise that care which is exceedingly wholesome for all subsequent work. Two years ago, several teachers in the third grade did not use the eraser, in the first book, nor allow the children to use it, except in a few cases, until they commenced to line in. Not a line was drawn by a child until he had carefully determined its position. No better work was shown in the city, and the result of that early training is now showing itself in the carefulness with which the same children, two grades higher in the schools, do their work.

But while in these cases the work was successful, I do not believe in withholding the rubber altogether. The result is more often a failure than a success. Pupils must be taught how to use the eraser properly. This can best be done in simple straight-line figures, such as are usually met with in the first books.

HOLDING THE PENCIL.

The pencil should be held at right angles with the line and at some distance from the point.

Children can easily be taught the meaning of this, and it is of great importance. I very frequently find drawings in which the short lines are not as straight as the long lines. This is due to carelessness in not holding the pencil perpendicular to the line. I would have it repeated at the drawing of every line, till every child from force of habit will turn his hand even if the line be ever so short.

DIVISION OF LINES.

If children have not become used to dividing lines correctly, the teacher must examine all lines before proceeding with the figure, and much time is consumed in erasing points and in indicating where others are to be placed. And just here the teacher's criticism is needed more than in the drawing of the lines. If the divisions are wrong, the drawing will be wrong. How, then, shall it be done without consuming too much time?

The children should be required to place their pencils upon or over the center and at right angles with the line, and to keep them in this position till told to make a point. As the teacher passes up the aisle, she can see at a glance whether the pencils are in the right places; she will not have to look closely for points. The pupils are more apt to place the points correctly in this way. They, too, can see the divisions better when the pencil is on the line. Moreover, while the teacher is examining for the correct division of lines, she can also see whether the pupils hold their pencils correctly.

Of course it will be understood that the hand should rest on the paper, the pencil perpendicular to the line and not to the surface upon which the line is drawn.

I emphasize this manner of dividing lines, as so many pupils are apt to place the hand or pencil over the line while dividing, and then to remove the same to see if the point is right. Moreover, it is impossible for the teacher to oversee the work or the manner of doing it unless there is some uniform method, something like that mentioned, adopted. Uniformity of method brings uniformity and accuracy of work.

LINING IN.

It has sometimes been a question just how soon children should commence to line in their drawings. I think some lining in should be done in Book I. The child wishes to make the drawing bright enough to be easily seen; and if not taught and allowed to line in, he will learn to sketch heavily. I do not, however, think it should be attempted until the pupil has become thoroughly used to sketching lightly. At least three-fourths of the exercises in the book should be drawn before lining in is attempted. I have tried many ways of teaching this feature, and the most successful has been this: To draw on the board an exercise from the book previously sketched by pupils, which will best illustrate what is to be taught, and then to proceed as follows:

First. Erase all guide lines, and all lines not necessary in the completion of the drawing.

Second. Erase all points.

Third. Almost wholly erase all parts of the drawing.

Fourth. Strengthen, or line in, those lines which form the figure.

With the illustrations of these four stages upon the board, the importance of erasing the whole of one construction line before giving attention to another, of making lines of an even thickness, and of joining them nicely at the angles, may be shown. Pupils fail upon these simple things; they have to be repeated many times.

The children should learn the four stages mentioned, and no work should be done in the books until every child can repeat what has been given. It would be well if a drawing, lined in of the required strength, could be shown to each pupil. This takes time, but it pays in the end. Better line in a less number of drawings and make a good beginning. The work should be done in stages, one stage being completed by all before going on with another.

Many of these things may seem exceedingly simple, as though they might be learned by a class by once telling; but not so. I have seen whole sets of books ruined through not giving sufficient attention to these simple things.

SLATE WORK.

It seems to me that the manner of working upon slates should be as nearly like that on paper as possible. To make a score or more of drawings amounts to but little in aiding future book work, unless the child is taught to exercise similar care in the handling of his slate pencil, in erasing, etc., as in the use of the lead pencil and eraser.

I have omitted speaking of slate work till now, as it seems to me that the remarks made upon drawing lines lightly, holding the pencil at right angles with the line, dividing lines, etc., when drawing on paper, apply equally well to slate work.

So far, I have confined myself almost exclusively to the work in the first book, as I consider the child's first work on paper very important. I shall now speak upon more general subjects, the first of which is,

ANALYSIS OF COPIES.

Teachers often say that they cannot find time to ask the pupils questions about the figures, and to teach the definitions; the time allowed for drawing is so short that it must be spent in work, in order to complete the exercises laid out for the year or half year. Nearly a year ago, I gave a memory exercise in all of the eighth and ninth grades of the city. Please observe that I said "memory exercise," as that subject will be covered in part in what follows. I speak of this one exercise, as it was given in so many schools, and the work carefully noted. It was a Greek vase with handles; and compared with other work done from copy, would have taken two lessons in some schools if it had been drawn in the ordinary way, from a printed copy in the book.

My lessons were forty minutes each. I first made a careful drawing of one-half upon the board. When completed, the pupils laid aside pencils and other materials, and were required to give the strictest attention. I explained everything I could think of, in regard to the curves an [illegible] and very slowly explained the order of drawing the lines, how each line was to be divided, the length of lines compared with the central or some other important line, and the positions of all points and lines. This was reviewed two or three times, and then the pupils were left to study the form for five or six minutes. In their study they were to begin with the first point or line to be made, and proceed with others as in the order of drawing.

Half the time of the lesson was consumed in this way. The drawing was then covered up or erased. Now observe that the pupils were to do something more than to reproduce the general form: they were to reproduce every line.

What was the result?

In nearly every school all pupils sketched the drawing in the remaining time, and lined it in. No single figure in all of those schools was so accurately, quickly, and in every way well drawn as this; it was remarked upon by teachers; yet fully half of the time was spent in study. Many other figures have been given in the same way with similar results.

TWO WAYS OF TEACHING.

There is a teacher in Worcester who achieves remarkable results with all pupils coming under her charge. Were it not that I give lessons in the same school, and have opportunities to observe the results obtained by the pupils without any assistance from the teacher or myself, I could scarcely believe that all the work was genuine; so nearly mathematically correct are all the forms, and so sharply, evenly, and beautifully are the drawings lined in. There is no pupil, unless he be backward in everything else, but what attains this remarkable result. The work averages about the same throughout the school. Place the books in a pile, and take out at random any half dozen, and they will equal any half dozen that may be *selected* from the majority of the schools of the same grade in the city.

What is the secret of this success? There may be many, but one in particular was given by the teacher herself, as she gave a lesson one day in my presence. I was drawing at the blackboard. It was an ordinary lesson. The children were to draw a circle, within which a design was afterward to be made. Every child was in position, hands clasped and giving the strictest attention. The questions asked about that circle were in numbers surprising. It seemed hardly possible that so many questions could apply to that one geometric form. But when directions were given to draw, the form was quickly completed, and many of the circles had the semblance of having been drawn by the aid of some instrument.

Turning to me, the teacher said, "This analyzing the form is a great secret in my teaching. I have found by experience how much better work, and at the same time how much more work, can be accomplished by spending half, or a good portion, of the time in thus analyzing the figures before making a line." Besides having time for questions, the pupils have learned and can give the definitions of every geometric form and line they have ever drawn.

Other teachers say they cannot find time for analysis and definitions. In this school, however, not a minute extra time is given, and yet the books are completed from two to four weeks before the end of each half year; and the time given is but one hour and a half each week.

A short time ago I went into a school where children had drawn vases for the first time. In each case half of the form was printed in the book; the children had simply to draw the other half. The teacher met me with words something like these: "The children do not do at all well. They have no idea of form; the book is too difficult for them." I asked them to turn to a page somewhere in advance, where there was a blank space. They drew the construction lines for a vase, and then laid aside their pencils and took position. Slowly and carefully I drew a vase (one half only) upon the board. I showed them plainly just how to locate every point and line; how to find the altitude of the curves, the altitude of any curve compared with that of another, the width of the spaces between lines, and the necessity of observing those on one side and comparing them with those on the other in shape and width. The drawing was then erased, and they were asked to make a vase of good form. Their work was indeed somewhat in advance of what they had had. They were to design a vase and draw the two sides, whereas before one side was printed in the book.

What was the result?

Only ten or twelve out of a class of about fifty were helped at all, so well did they reproduce the vase. It was done in one short lesson. At recess the teacher came to the room where I was and said, "I will say nothing more about my children doing so poorly." She had learned a practical lesson; she saw the results and believed. She will probably spend more time in analyzing and in explaining the drawings in future —the pupils less time in erasing.

MEMORY DRAWING.

I referred to this a few minutes ago. It seems to me there is a better way to teach memory drawing than to have a class of young children turn back in their books and study some vase or ornamental form which they have previously drawn, and then reproduce it from memory. Only an approach is made to the original by this practice. Rather than to teach memory drawing in this way, I prefer to work in just as many exercises given from the board, in the way I have explained, as possible. Such exercises teach pupils, as we cannot well teach them otherwise, when the copy is printed in the book, how to study a drawing. They reproduce every line in the original, and the design becomes a fixture in their minds. I have observed in my classes a great improvement in the general forms of figures, owing partly, I think, to the giving of such memory exercises as I have described.

THE FIRST PAGE IN EACH BOOK.

I have spoken of the importance of good work in the grade where books are first used. It matters much, also, how the pupils in the different grades finish the first pages in their books. If done well, they are likely to do the whole book well. If done poorly, it is almost impossible to arouse them to any interest in their work. The first page should be well drawn and lined in by every pupil before going on with the second. Poor work is too often accepted by the regular teacher as the best the pupils can do. There is often a great difference as the pupils are promoted from one school to another. A school that was looked upon by myself last year as one showing the worst results in drawing of any in the city, of its grade, would hardly be known by its work now. The pupils had the ability to draw, but they did not know it. They had never produced good work, and were not enough interested to try. The teacher knew the children could do other things well, but thought they could not draw.

BEGIN RIGHT.

When the first lesson was given this year, means were taken to interest them. They drew the first line well; they finished the first page well. No more trouble, no lack of interest now. No school in the city gives me better attention when giving a lesson. They are trying and mean to do well; they feel that they can, but those two or three years of work accepted by the regular teacher were accepted to their loss; yet the teacher of that class worked harder than almost any one of whom I know. How much easier it might have been for teacher and pupils if she could have seen the mistakes of her course in accepting poor work at the first! This is not an exceptional case; I speak of it as an illustration of the importance to be attached to the work on the first page of each book, and the necessity of bringing the regular teachers to realize it.

If pupils are careless and do not do their work well, they are obliged to get new books and make up everything; they do not usually spoil the second.

Every pupil can present a neat and well-finished book. Careful work will show itself, though the drawing be inaccurate. Thick, patched, heavily-drawn lines are not to be excused on the ground of no talent in drawing. The pupil will never become interested till he is made to do his work neatly.

DRAWING FROM OBJECTS—FACTS OF FORM.

I questioned with myself whether I should, in the limited time I have, attempt to discuss this subject. I will merely open the subject for you to discuss after me, by giving my own experience in the matter. I believe thoroughly in object drawing, even in the lower grades. Objects can be taken so simple that children can see and learn to represent every edge by a line. It has been my practice for three or four years to have children make drawings of envelopes of different patterns, one view of a common pasteboard box, a pocket-book, or any rectangular object of a few lines. By proper questioning, pupils can be led to see and to explain how this or that edge should be represented.

From these objects the work leads on to those very simple objects, easily obtained, which are curvilinear, or contained in or made up of parts of geometric forms with which the pupils become familiar in their drawing. The representation of side views of vases, bells, mucilage bottles, and similar objects found in nearly every school room follows; and farther along I have found children exceedingly interested in making flat drawings of lead pencils, pens, penholders, ink-well covers, scissors, and similar objects. Such work to them becomes practical, and it teaches them to observe the forms of objects about them.

WORKING DRAWINGS.

Following this comes one of the most important features in the course of object drawing, in the study of all the facts of the objects. It is my plan to take into the school room a cylinder, an oblong block, and a piece of paper oblong in shape, similar in size. I make a drawing on the board representing the side view of the cylinder, and at the time question the pupils in regard to the various lines necessary. A side view of the block is then made in the same manner, and afterward a drawing of the paper. The three drawings are yet all alike; they are oblongs, though made from three different objects. If now the pupils are asked to observe the thickness of the objects, they see the necessity of other representations to fully describe them and to distinguish them. If they are asked to state what should be drawn to represent the other view or the thickness of the cylinder, for instance—the view gained in looking directly down upon the cylinder, the other fact of the solid—the answer would be, "A circle." Now, by drawing a circle under the first oblong and connecting this circle by other lines or lines of projection with the oblong above it all the facts of the form of the cylinder are expressed. This much being done, pupils will see at once what should be drawn under the other oblongs to express the facts of the oblong block and piece of paper.

Pupils will be exceedingly interested in this their first lesson in making working drawings, so called; and it can readily be explained to them how such drawings are made use of by carpenters and other mechanics, together with the way in which measurements are indicated. After giving drawings like these, pupils copy them into their books; and months later I have been surprised to find how well they remember them.

Other simple objects may be taken in the same way. Pupils may be asked to represent a round, an oblong, and a square box by means of two drawings.

A short time ago I had some of these objects made for me, and have since taken pains to show the pupils how the drawings were made to indicate to the carpenter what I wished constructed; and before them I place the objects as a practical illustration of drawing being used as a language to communicate ideas.

DRAWING FROM OBJECTS—THEIR APPEARANCE.

When we come to the drawing of objects as they appear when placed in different positions we have quite a different kind of work from that of representing the facts of the forms. I begin with the circular objects, and first endeavor to give pupils an idea of the modifications a circle undergoes when placed in different positions to the eye. I take a piece of paper, circular in shape and several inches in diameter, and holding it directly in front of one line of pupils, ask the first what he thinks should be drawn to represent it as it appears to him. The answer is, "A circle." I then revolve it on its vertical diameter, so that the view obtained by the next pupil is a vertical straight line; and he and the others easily understand that a representation of what is now seen would be a vertical line simply. Revolving it part way, I show to all that it now appears as an ellipse, and explain why it appears as an ellipse. I then present the form in various positions of obliquity, both vertically and horizontally, until pupils understand that, according to its position to the eye, a circle may be represented as a circle, an ellipse, or a straight line.

In connection with this study of the appearance of the circle, pupils are taught to measure with their pencils held at arm's length. They practise this by working out the proportions of the height and width of the circular piece of paper, in different positions; and also the proportions of some large cylindrical object in the room, like the waste-basket. It takes but a few minutes to ask every pupil in the room some question in regard to the different appearances of the circle, as the paper is revolved, first in front of one line of pupils and then in front of another. Questions may be asked about the widths of the different ellipses; whether the circle in one position should be represented wider or narrower than in another.

If I wish to make a drawing on the board, I make it to represent the object as it appears to some one pupil in the room, placing it on the desk in front of him. I show him how to make the different measurements; he makes them, and tells me what they are. When the drawing is completed, I am sure that there is one pupil in the room who knows how to draw the object in that position. If the children find that one of their number can do it, very likely many more will very soon learn, if they did not learn at the time.

SUGGESTIONS ABOUT TEACHING MODEL DRAWING.

When we come to spaces in the books to be filled with drawings from objects, it is a question just how the work should be done. I long ago abandoned the method of placing objects about the room, and requiring pupils to work from them alone. My experience has been that the work becomes so individual that the teacher can attend to but comparatively few pupils in the time allowed, and that the results, therefore, are unsatisfactory.

For a long time I have taught in this way: If the space is to be filled with a cylindrical object, I use a cylinder, double cone, or vase, and either give the proportionate lengths of the various construction lines, or require some one or more pupils to work them out. When these are sketched by the class in their books, all cease work, and of one is asked what should be drawn at the top and bottom (and center, if required) to represent the object as he sees it, the width of one ellipse compared with another, and similar questions; of another is asked what should be drawn when the top is on a level with the eye; of another, the bottom on a level with the eye; of another, the centre; and in this way each pupil in the room is questioned about some one position; and then all are required to make a drawing of the object in one of these positions which is named, all doing the same. Their imagination is brought into play, and they learn to reason a little. The object is not before them; uniform work is the result. I might explain how, in a similar manner, rectangular objects, rings, square frames, and other models in different imaginary positions, are drawn by pupils; but this would lead to too much detail just now.

But some will say, "This is not model drawing; we cannot call it model drawing unless the sketches are made directly from the object, and all measurements taken therefrom."

This I will not discuss. I will make my answer by saying that when the pupils who took up drawing in the high school this last year were given a group of models from which to make their first drawing in the prescribed course, but comparatively few needed and received much help; and there were from seventy-five to one hundred of these drawings made by as many different pupils. These pupils had never drawn objects in groups before; and in fact, they had had but two years' practise in model drawing in the schools below, and had never made drawings from the solid except in the way I have explained.

Model drawing, or drawing from objects, must be taught in the grammar grades. What can we do in the limited time devoted to drawing in these schools, and with fifty and sixty children in a class? Will others give me the results of their experiences? I know of no more satisfactory way than that I have outlined.

RAPID DRAWING.

In discussing this subject, I shall cover two or three others, the use of the test paper being the most prominent.

A strong effort has been made for two years past, in Worcester, to induce pupils to work rapidly. The success so far has been better than anticipated. In giving lessons in all grades of schools, from the lowest to the highest, I have been able to follow children in their work, week after week and month after month, and have noted most carefully the results with pupils who have worked rapidly and with those who have worked slowly.

We cannot of course deny that rapid execution should be encouraged if the results justify it; and I can state it as a fact, from work seen in the drawing books and from the testimony of many teachers, that accuracy of work is obtained to a greater degree among rapidly working pupils than among the opposite class. The children become vastly more interested in their work. They go over much more ground, and learn to depend more upon themselves. The work of the teacher becomes much less, and what perhaps was a drag in the school curriculum becomes one of the most interesting exercises.

ITS PRACTICAL VALUE.

Rapid drawing may result, as it sometimes does, in the most careless and shiftless work; but a dilatory way of working leads to a lack of interest, and this to poorly executed and unfinished exercises, and many other things which defeat the desired end and tend to create an aversion to drawing. One of the important features for which drawing is introduced into the schools is lost, for slow work with the hand will ever be against the pupil when he steps out of the school-room into the workshop. He who is to labor through life with his hands will gain the highest wages who uses his hands and his eyes to the best advantage.

The practical importance of clear and ready perception of form, and rapid drawing, cannot be overestimated.

When I commenced my work in Worcester, I often had occasion to remark to many of the teachers that the figures in the books were not completed by a large part of the pupils; and in all cases I found that a great length of time had been spent on the exercises in question. "But they do draw so slowly, and we have to go on in order to carry out the work," were the words I always heard in reply; and in these conversations with the teachers, much complaint was often made against the amount of work laid out for the year. Usually the ground taken by the teachers was that the pupils ought to draw still more slowly, that their work might be done more accurately.

It was designed to use two books in one year in each of the grades. For the first half of the year, as I have just intimated, many teachers thought one book too much, and some did not succeed in finishing it; but after insisting upon more rapid work, and showing how it could be done, there was a great difference in the work through the last half of the year, and through the next; and this year, with the books graded lower, the pupils have been so much more expeditious in their work that at the close of last term, in the majority of the schools, twelve and thirteen pages, and in some fifteen and sixteen of the twenty, were finished. The work was done in ten weeks of two lessons a week, and no teacher was allowed to give any extra time.

I might give many instances, if time permitted, of schools that have drawn sixteen, seventeen, and even nineteen pages in twelve weeks; and I might compare the work with that of a year or two ago, when twice the time, nearly, was taken.

I might speak of schools which at that time troubled me more than others; schools where I found exercises uncompleted after many lessons had been spent upon them; schools which ranked lowest among their grades, but which now rank among the first. One in particular I have in mind, which a year and a half ago was the lowest of its grade, with hardly an exception. It is now the highest, with but one exception. Every exercise in the book is completed — a book planned for a half-year. This has been done in fourteen weeks, one hour and a half a week.

The way in which the pupils in these schools proceed with their work shows how much more practical it has become. At the same time they are more interested in their work; while the direct testimony of the teachers is to the effect that the instruction itself has become much easier for them.

The success of this more rapid work has been marked in many ways. The drawings, without a question, are much more accurately executed. Pupils have learned to sit up in their seats and to keep their eyes at a proper distance from their papers, so that they can take in the whole form of the object at once. They have learned to grasp their pencils in such a way as to give a free and easy motion to the hand and line. They have learned to use their eyes, to see the form, to put it quickly upon paper, and not to waste the time by free and constant use of the eraser, niggling over a few lines until the form itself is lost in the detailed effort at finishing these lines.

In getting at the results of the work in so many schools I have not trusted to memory alone. It is my way, in order to arrive quickly at an estimate of the work done in any school, for purposes of comparison, etc., to have the pupils open their books to drawings made since my last visit to the school; and as I pass around the room I count the number of books in which the figures are completed and quite accurately and well drawn. By so counting on several pages, and by taking the number of pupils, I arrive at the per cent. of good work.

This is done so much that I learn to keep about the same standard in counting, and therefore have some tangible basis for comparing the work of one school with that of another, and the work of any particular school with its own past record.

DISADVANTAGES OF SLOW WORK.

Teachers have remarked, "It does seem that the pupils ought to draw better when they draw slowly, but they do not." And why do they not? The reasons are simple: When they work slowly they get their eyes near the paper; hold their pencils tightly; draw a line an inch long or more, and then erase a little; add a little more and erase; and continue drawing and erasing, without thought as to whether the line is in the right place or not. They are so absorbed in making that one line that they lose all sight of the copy and of the form of the figure as a whole.

Children accustomed to drawing slowly do not depend upon themselves. The teacher usually tries to help them, and they learn to expect it. It has been the way with some teachers, when giving an exercise which appeared difficult, to dictate one or two lines at a time, and then to pass around the room to see that all had drawn them correctly. Some pupils sketch quickly, and then idle away the time; other lines are given, and they fail to notice the relation they bear to the first. As a result their figures are disjointed, so to speak, while so much time has been spent on them that all interest is lost; and the work becomes in a measure unprofitable.

Another point: To make a complete drawing of the figure on the board is a mistake. The figure in the book is the copy for the children. It should be explained in full, and they be required to work from that alone. At the most, only lines to illustrate various parts of the figure should be drawn on the board.

The chief cause of slow work is found in the frequent use of the

TEST PAPER OR MEASURE.

Suppose a line is to be divided into a certain number of equal parts. The pupil, after placing the points, tests it by folding a piece of paper, or by using some other poor device. His line is not mathematically correct, and it is not expected to be; but when pupils are allowed to test their work, they are satisfied with nothing less. In a figure which is at all complicated, many points are to be made; and to test all measurements, a great amount of time is wasted in striving after mathematical accuracy. Mistakes are often made, and children, thinking, as they measured, that the points must be right, sacrifice form in order to pass lines through these incorrectly placed points.

At one time I gave a simple exercise in a school of the eighth grade, accustomed to using every means for testing. I allowed them to go on for that one lesson; and although they were repeatedly urged to work faster, at the end of the lesson of forty minutes there were some pupils, incredible as it may seem, who had but three lines drawn and divided as I wished them to be.

EVIL RESULTS OF MEASURING.

If children know they may test their work, they become very careless in placing points and in dividing lines. Moreover, as is too frequently the case, in a large class where pupils cannot readily be detected, they measure directly from the copy to their papers. It is impossible to know whether they have first placed the points without any aid.

The pupils of many classes have lately been required to keep a piece of cloth in their books instead of paper. They cannot measure with this, and it serves the double purpose of a rest for the hand while drawing, and a dust-cloth after erasing, thus preventing much soiling of the books.

The practice of frequent testing, with young pupils taught in large classes, at an age when the eye needs so much training, and when pupils need to be taught to depend upon themselves, involves a direct loss — loss in time and in the power of determining the form and divisions of figures. Many teachers have told me that the results in drawing have been far more satisfactory since the pupils have become accustomed to working without test paper.

GOOD RESULTS OF NOT MEASURING.

Only two or three weeks ago, while giving a dictation exercise in one of the fifth grades, I stopped suddenly and asked how many had tested their work. The children looked surprised; the teacher more surprised. "Why," she said, "you don't wish them to test their work, do you? I teach them to be very careful in placing every point and line; and should I allow them to get into the way of testing their work, they would become careless, get behind, and in the end do much worse instead of better." Just so; she knew by experience. She spoke before I had answered her question.

Let any one who maintains that the test paper should be used go into that school and examine carefully those drawings. They will bear the closest scrutiny.

Some may say, "Ah, but the child must measure in order to know that the drawing is wrong." But I say, when we consider the way he takes to find his error, the lack of thought in the process, and what it leads to, he has not educated his eye by so doing. If a line is to be divided into any number of parts, I have yet to find that child, except the few everywhere found and to be excepted, who, if brought right down to the question whether one line is longer than another, could not tell the difference, if there were any material difference between them. What the child needs is to be taught how to see, and how to study his drawing, and to use great care in the making of every point and line.

I have given lessons many times in the third grade — third year of school — when, by proceeding slowly, nearly every child made the divisions of lines and figures surprisingly accurate; and in this grade they never have a test paper or measure.

There are, of course, exercises which at times should be tested, but the pupils should be allowed to use their measures only on these special occasion when permission is granted; and the teacher, if she desires to have the work pass off quickly and at the same time successfully, will greatly restrict their use.

What I have said refers to papers and measures. At any time, if the pupil wishes to test the length of a long line with his pencil, I see no objection. It can be quickly done.

AVOID EXTREMES.

Let me say just here, that I do not think young pupils in their first books should be influenced to draw rapidly. They usually draw fast enough; considering their work and their age, they work faster than pupils in the higher grades. They have many new things to learn; they should be well learned.

There are two extremes in everything; and while the majority of schools draw too slowly, there are some that draw too rapidly, and become exceedingly careless. This is caught up by the teacher as an argument against rapid drawing; whereas the fault quite likely lies with herself. As in writing, so in drawing; the form should be carefully studied first, and then the strokes made quickly. A beautifully written word or letter, when the form is well known, is not made by stopping to erase and to patch up again, or by tracing slowly. A cramped and disjointed appearance is sure to be the result.

I have said much upon this subject, for I believe there is nothing that so injures the drawing in the public schools to-day as the habits acquired through working slowly. I have made it a study, and have talked with many upon it.

Only this summer, a principal of a large grammar school in one of our large New England cities told me the condition of the drawing in his school. He was very much interested in the matter and wished to see it succeed. He had tried to make the drawing what it should be in his building, but could not do half what he wished. He was held back because other teachers could not finish the work short of a year that was laid out for the half-year. "And I am afraid," he added, "that it will ultimately be thrown out of the schools here; but if it is, it will be solely because of the results obtained through habits acquired in working slowly, for I know full well what it leads to; and," he continued, "from my own experience with all the schools in my building, I know what can be accomplished if pupils are taught to work rapidly, with all which that implies."

The proper analyzing of the exercises, the doing away with the test paper, and a restricted use of the eraser, do more than all else in bringing about rapid drawing.

SUCCESS IN TEACHING DEPENDS ON ATTENTION TO DETAILS.

It is time for me to close. You will remember in beginning I expressed the opinion that the teaching of drawing successfully in public schools depended more than most people are aware of upon some very small matters; let me here add, so small as oftentimes to seem insignificant. As time has permitted, I have spoken of some of these little things which have come under my own observation, and I trust I have not wearied you in so doing. I might have spoken more fully upon some of the features embraced in the general subject of Industrial Art Education, and the importance of teaching them in the schools; but there are others to do this work. My own conviction is that the progress of the study will be slight unless the little difficulties which surround the practical teaching of the subject in the school-room are fully considered and overcome. These difficulties may seem light and almost trivial to us, but I find them appearing very different to the regular teachers upon whom we have to depend to give the instruction in the schools. I shall hope, therefore, to get the views of others on the points I have presented.

Some eighteen months after the reading of the preceding paper upon the teaching of drawing in the elementary schools, Mr. Perry read a paper at Saratoga,* in which the subject of instruction in drawing in the grammar schools was considered, and the increasing desire for some form of manual instruction in the public schools was recognized. This paper, like the preceding one, was published with illustrations. As it suggests methods of teaching the pupil how to make and how to read "working drawings" of the simpler forms of practical carpentry, the illustrations are essential, for which reason this part of the paper cannot be here inserted. Those practically interested in teaching or promoting the study of industrial drawing in public schools, will find in this and the preceding paper, many valuable suggestions.

Mr. Perry opens his paper with a statement of the vital relation of industrial drawing to any valuable industrial training, as follows:

MR. PRESIDENT, LADIES, AND GENTLEMEN: It is admitted that the public schools cannot give what is called a technical education — that is, an education which shall prepare for particular trades or industrial occupations. At the same time the growing importance of these occupations makes it necessary that in our public education we consider their demands in our provisions for the development of manual power, skill, and taste. What our public schools can give in the way of industrial training, which shall at the same time be of fundamental value in general education, is one of the important educational topics of the time.

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* "The teaching of drawing in grammar schools; a paper on the educational features of the subject, read before the department of industrial education at the meeting of the National Educational Association, Saratoga, July 11, 1883, by Walter S. Perry, supervisor of drawing in the public schools of Worcester, Mass. Boston: The Prang Educational Company. 1883." pp. 26

INDUSTRIAL DRAWING THE BASIS OF MANUAL TRAINING.

A strong conviction is arising in many minds that more attention should be paid to manual training in education than hitherto, and we have heard much on this subject during this convention. Now, it must be admitted that before there can be any broad development of manual training in the schools, or technical or industrial training of any kind, there must be broad, general instruction in industrial drawing. This fact is so generally recognized that in Professor Thompson's valuable essay on "Apprenticeship Schools in France" we find these words: "Technical education without education in technical drawing is a delusion and a sham." And in a report by a distinguished French commission on industrial education are found expressions equally strong in regard to the importance of drawing as a basis for industrial training.

The introduction of drawing, therefore, into public schools should be regarded as an important step towards general industrial education; and in view of this fact what is taught as drawing in the schools becomes of the utmost importance both practically and educationally.

He further has a few plain words to say as to how, in many cases, drawing is now taught, or rather is *not* taught.

HOW IS DRAWING USUALLY TAUGHT?

It has been remarked that it is quite universally recognized that drawing should be taught in the public schools; and in the best schools of the country it is taught, but *how* is it taught? I think I am safe in saying that in more than half of the schools that claim to teach drawing the subject is merely mentioned in the course of study, and not much else can be said in regard to it. Vague directions are sometimes added, but these are of little practical value to the teachers, who, left without any intelligent idea of the object or aim of the instruction, do little or nothing with it. In many places where special teachers are employed, and where regular work is attempted, there is not a fixed purpose or aim in the instruction, and the system or method is therefore changed as often as there is a change of teachers. In fact, schools might be mentioned which have been experimented upon with three or four different systems in as many years.

Under this condition of things, with no fixed principles established, school committees are at the mercy of agents of so-called systems of drawing, who crowd upon them from all parts of the country, and the average committee is puzzled to decide between their conflicting claims. With rare exceptions the member of the school board is entirely ignorant in regard to the study; his ideas of its practical and educational value are usually of the vaguest kind; and quite possibly he regards it as an ornamental study only. Such persons see something that looks pretty upon the printed page; a skilful agent dwells upon the training of the eye and hand and the necessity of securing more beauty in our industrial objects; votes are secured, and the question of industrial training in the schools of communities may be given an entirely false direction. Teachers and children accept the inevitable, and boldly plunge into work of which they understand neither the object nor nature.

He then defines drawing in its broad divisions as follows:

WHAT IS DRAWING?

Drawing is the language by which a true idea of the form, the appearance, and the decoration of an object is conveyed from one person to another. It is the main language of the skilled constructive industries, and its importance to the designer and artisan is only comparable with reading and writing. * * *

GENERAL DIVISIONS.

Inasmuch, then, as drawing is the universal language of our vast manufacturing industries, it certainly would seem that the drawing which we teach in the grammar schools should be such as will include the elements of this all-important means of expression.

But drawing has applications not alone in the *construction* of objects; it is the principal means by which we express ideas in regard to the *appearance* and *decoration* of objects; so that the subject considered as a whole may be regarded as embracing three fundamental divisions:

Construction.—Drawing as applied in industrial construction; making of objects.

Representation.—Drawing as applied in representing the appearance of objects and of nature.

Decoration.—Drawing as applied in ornamentation.

Sound instruction in drawing means teaching a knowledge of form and its application in these three divisions.

Upon training in practical knowledge of working drawings, which is the main purpose of his paper, he remarks:

CONSTRUCTION.

I think that drawing has failed to receive just recognition because of the failure to recognize the great importance of the constructive division of the subject. This forms pre-eminently the educational and the practical side, and yet it is the one which has usually been ignored, while the pictorial and decorative sides have been given undue prominence. The fact that drawing is so often spoken of as an ornamental study by well-informed persons is proof that its educational and practical value has not been at all comprehended. A great many say in support of the matter that drawing is important; but why is it important? When these æsthetic advocates of drawing are brought to the point of defending the practical importance of the study, they cannot tell *why* it is important; they are at a loss for good and substantial reasons. They aim to give what they call training to the hand and eye; but this, though very important, is very indefinite in its results, and does not touch one of the most practical reasons for making drawing an important branch of education. We must recognize that it is the practical usefulness of drawing in adult life that warrants its introduction into the public schools, and we have only to examine how it is made use of in our constructive industries to see that the constructive division is not only the most practical division but at the same time the most educational one.

CONSTRUCTION DRAWING FEASIBLE.

When drawing was first introduced into the schools one of the chief reasons given why it should be taught was that children might learn how to make and to read working drawings before passing from the school to the workshop; but nowhere could be found a system of books that brought the subject down to the grammar schools, and, as a teacher, I felt somewhat afraid I would be questioned upon the matter. Not a book had I to show which held between its two covers one single drawing that represented the simple projections of a common object so arranged as to give a pupil or teacher any idea how such drawings are made use of by the artisan. And when I first suggested to a gentleman, who is now doing very much to develop this feature in the public schools at large, that in our middle schools this subject must be taught, I received this answer: "I see its great and intrinsic value, and I hope soon to see it introduced into the lower schools; but at present it cannot be taught; teachers would cry out against it as a subject too difficult to teach, and the opponents of drawing would say we were endeavoring to teach orthographic projection, and would thus frighten timid people with the very word."

Allow me to add that this subject of constructive drawing, or the making of working drawings, has been taught for several years in the schools of Worcester. I have found it a feature that develops from primary object teaching of form without a break; that it is readily comprehended by teachers and the one subject in which the pupils are the most interested.

WHY HAS CONSTRUCTION NOT BEEN TAUGHT?

I believe it has not been taught in the grammar schools hitherto because it has been thought necessary to treat it scientifically, as laid down in the regular text-books on orthographic projection, with the various planes of projection, etc. I have in my possession a small book, intended for grammar-school use, written by one who holds a prominent position as instructor in one of our leading institutions; yet I cannot believe the author ever taught a class of young pupils for five minutes. He begins with the projections of points, lines, planes, etc.; projections of things which cannot be presented in solid form, and the treatment of which does not appeal at all to the perceptive faculties of pupils. Now, working drawings are simply drawings that tell the facts about objects; consequently, to teach such drawing in the schools we have only to teach pupils to observe the facts of objects and then to express by drawings in the simplest way, by the free hand or otherwise, what they see; and I hold it to be an educational absurdity to require pupils at this stage to learn about planes of projection, and all that is usually first presented under the head of orthographic projection, and a great wrong to the pupils to omit this feature till they are of an age to comprehend such a scientific treatment of the subject.

His statement that the kind of drawing which he urges has been successfully taught in the schools of Worcester, under his supervision, is valuable testimony, and lends much interest to his description of the methods used, to which, as already stated, the illustrations are essential.

In concluding his paper, he touches upon a topic of general educational interest, that is, on the impression the pupil sometimes receives on a given subject which is often vague, sometimes erroneous, and too commonly incomplete, something very different from the idea the teacher sought to convey. The instance given furnishes an admirable illustration of the futility of "flat copies" for giving any practical, independent mastery of the art of drawing. In learning to draw, as in learning to walk, crutches and outside help must be early abandoned, if the learner is ever to be able to go alone, or to attain to strength and grace.

Treating of decoration or design, Mr. Perry questions whether children should be confined to the drawing of mere geometric lines and combinations. This he decides to be unwise, and says:

> * * * They should rather first learn to design good forms—to design units. But how? I hear one say, "By copying ornamental figures in their drawing books they gain a knowledge of good form." But pupils do not gain that knowledge of good forms through the mere copying of them that one might suppose. The copy is before them and they see but one line at a time—the line they are drawing; they make an accurate copy of the whole by accurately copying each line, while a thought of that which gives beauty to the whole does not, except rarely, enter their minds. They should, certainly, be trained to consider the whole form; but this can be done in no better way than by requiring them to imagine and draw forms for themselves; and these forms must first be familiar objects upon which they can use their reasoning faculties in regard to usefulness and appropriateness, and can be not only seen, but handled.
>
> As a proof of what has just been said about pupils not gaining a knowledge of forms through the mere copying of them, I offer the following—an exercise given several years ago in all the schools of the two highest grades. The pupils drew the construction lines for a vase, and were then told to draw a vase of good form similar in construction to some one of those previously drawn from copies in the book. But they were at a loss to know what to do. In some cases I made sketches on the board, and then quickly erased, in order to offer some assistance. The results were a great surprise, and were the same everywhere. I could hardly believe that those pupils who showed me such excellent copies in their books could be guilty of making vases so ugly and so useless in construction.
>
> I think that pupils should no sooner begin to draw, say vase forms, than they should learn to construct or design vase forms. I do not mean construct something entirely different from their copies, but they should learn to construct a beautiful form without a copy before them, and to know what gives to it its beautiful appearance, and to make from an ugly copy a drawing of good form. Having done this kind of work in the construction of familiar objects, they are better prepared to draw abstract figures or units, which units may afterward be incorporated into designs for surface decoration.
>
> As the pupils advance from one grade to another and become acquainted with a greater variety of forms, both in the concrete and the abstract, their work of this kind, of course, advances from the simple to the complex. A drawing of a vase of a new pattern, or of an ornamental figure, may be put upon the board, analyzed before the class, and its various features explained. Rough sketches may be made to show how slight changes in parts would rob the whole of its beauty; and after everything possible of this kind has been explained, the drawing should be erased, and the pupils told to make a similar drawing, of good construction, if a vase, and of a good decorative design, if an ornamental figure; remembering that to reproduce exactly the drawing on the board should not be the principal thing in mind, but rather to construct or design a figure of good form, with all parts bearing the proper relations to each other.
>
> Having found such work so very valuable in educating the eye to perceive good form, in the construction of simple objects in the lowest grades, I think that one of the first things children should learn to do in decorative drawing is to design, in a similar way, simple ornamental figures symmetrical upon an axis. These figures may afterward be combined to fill geometric forms; and when the pupils have become familiar with simple units and the combinations of these units to form surface designs, they will be prepared to conventionalize leaves for purposes of design, first from copies and then from the leaves themselves.

APPENDIX D.

PAPERS RELATING TO THE MANAGEMENT OF THE MASSACHUSETTS STATE NORMAL ART SCHOOL.

I.—Introduction to account of legislative investigation.
II.—Report of committee to legislature.
III.—Message of the governor and action by the legislature.
IV.—Relating to the art director:
  a. Letter in Boston Herald.
  b. Letter in Boston Advertiser.

I.—INTRODUCTION TO ACCOUNT OF LEGISLATIVE INVESTIGATION.

The action of the Massachusetts legislature in directing an official inquiry into the management of the Normal Art School, with the events immediately preceding this action; the result of that inquiry as embodied in the majority and minority reports of the legislative committee, and the application made of these reports by the governor of the State, in his annual message to the legislature, are here summarized; as a part of the contemporary history of the school, and as illustrating some of the difficulties that surround all such educational experiments.

The official reports relating to the Normal Art School show that during the year ending June 30, 1881, some changes were made by the board of visitors in the personnel of the corps of instructors of the school, which were generally understood to be neither advised by, nor agreeable to, the director. A formidable opposition in the city had also developed against Professor Smith, which sought his removal from the State and city positions held by him.* This was caused partly, it was believed, by the fact that as director of drawing in the city schools he had at length announced that the time was near when special teachers in the high schools could be dispensed with, just as they had been in the lower schools. This, though in direct accord with the plan always announced from the first of having this study taught by the regular teachers of the schools, antagonized the special teachers and their friends. The principalship of the Normal Art School was bound up with the position of State director of art education. Professor Smith's earnest protest against certain changes in the drawing books for the public schools, his insisting that the good of the pupils demanded the least possible resort to adventitious aids, such as "guide points," etc.; that it was the training of the eye and the hand that was essential, not the prettiness of the work nor the amount of paper consumed—in all of which he was sustained by the committee on drawing—was, possibly, another element in the causes that eventually culminated in the severing of all his official relations. Causes originating in previous efforts to secure the removal from School street, were also thought to have contributed to swell the antagonism that had been gradually developing.

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* It is in this connection that the following words of Dr. Miner, spoken at the first commencement of the school in 1876, assume something of a prophetic strain. He said: "The success of the school and the diffusion of its good required text books embodying its principles and methods, thus arraying against it long-established interest. Still further, every institution vigorously administered—and I believe the vigor of the administration of this school has not been questioned—runs across somebody's path and produces more or less of antagonism through interest, envy, or personal conflicts and prejudices." (See ante, page 159.) Some of the sources of the combined opposition subsequently experienced by Professor Smith in the performance of his varied duties, were thus clearly pointed out in advance.

THE LEGISLATIVE PROCEEDINGS ANALYZED.

The differences in regard to the management of the Normal Art School resulted in an appeal to the State legislature, and the ordering an investigation by the committee on education, with a view to further legislation if found desirable. This committee reported May 5, 1882,* that it was inexpedient to legislate, two of the committee dissenting.

The sessions had been frequent, and the fact that within the past year there had arisen much friction between the chairman of the board of visitors and the principal of the school was disclosed, but many misunderstandings seemed to be removed, and some natural but erroneous inferences dissipated.

The majority statement accompanying the report discussed at some length the reasons that led to the establishment of the school, gave the statistics of attendance, and summed up with the conclusion that many of the difficulties were trivial and transitory.

They are clear, however, that the board during the past year, in attempting to curtail the proper prerogatives of the principal, exceeded its proper province. On the other hand, they think some of the difficulty due to the personal characteristics of the principal, and that much of the trouble "grew out of the personal peculiarities of the actors on both sides." * * "The blame for this unfortunate state of things does not belong wholly to any single individual, nor to one party." * * They say that "many of the existing difficulties were cleared up, and that others now seem to have been wholly misunderstandings." They are, however, emphatic in disapproving the attempt during the past year to "curtail the prerogatives of the principal."

In conclusion, they recommend a reorganization of the board of visitors. In regard to the principal they say (Recommendation 3):

> "We are persuaded that the principal of the Normal Art School is open to just criticism in the recent troubles, and is deficient in some desirable qualities as an administrator; nevertheless we fully recognize his rare genius and skill in his department, and his phenomenal ability as an art educator."

Then, having before expressed their disapproval of the interference by the board with the principal, and recommended a reorganization of the board—all of which would be as a suggestion to the new board in the discharge of their duties—they conclude.

> We are fully convinced that the principal and the assistant teachers should still be hired by the board of visitors, and that the principal should be subject to their direction.
>
> It seems to the committee that so peculiar a course of instruction as this institution contemplates should be prepared and assigned to the assistant teachers by the principal, subject to revisal by the board of visitors.
>
> Finally, it is the clear conviction of your committee that the assistant teachers should be subordinate to the principal, and should perform such work as he may assign to them, subject to the approval of the board of visitors.
>
> It is to be hoped that the mutual explanations made in the course of this investigation have cleared up many misapprehensions under which some have labored, and contributed to the future harmony of the school. If so, the cost of the investigation, in time, labor, and money, will prove a profitable investment.

CHARLES F. GERRY,
Of the Senate.
N. W. EVERETT,
D. DORCHESTER,
WM. W. MITCHELL,
GEO. P. STEBBINS,
JOHN B. WHITAKER,
HENRY C. TOWLE,
Of the House.

BOSTON, *May* 5, 1882.

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* House [illegible]

A second statement agrees with the first in estimation of the great value of the school; disagrees with the recommendations and suggestions; sustains fully the chairman of the board, and so inferentially condemns the course of the principal of the school. This statement is signed by two senators, "J. M. Moore, Augustus Mudge, of the Senate." A third statement by one member of the house, Mr. Edwin N. Hill, disagrees with both the preceding, refuses to consider personal disagreements of individuals, but takes up the subject of the school itself, and expresses the opinion that it should be abolished, and such of its teaching as is essential should be transferred to the regular normal schools of the State, and recommends reference of the entire question to the governor and council. A further statement, signed also by but a single member of the house (Mr. H. M. Humphrey), "while not formally dissenting from the able report of a majority of his colleagues," regrets that they did not go more fully and positively into the merits of the controversy. He states definitely that it is a personal quarrel between the chairman of the board of visitors and the principal of the school. He distributes praise and blame to either of the parties somewhat impartially, and then proceeds to differ wholly with his colleagues as to the need or desirability of any such school. To this part of his statement there will hereafter be occasion to allude.

He closes by regretting that the resolution empowering the committee to act had not sufficient scope, and offers a resolution empowering the governor and council to "consider and report" also upon the "advisability of abolishing" the school.

While this majority report of the legislative committee thus heartily indorsed the plans, organization, and purposes of the school, and practically supported the principal in his struggle to retain the executive government of the school in his own hands—absolutely essential if his usefulness was to continue—the matter was by no means ended.

The sessions of the committee had developed the existence of an element of active personal hostility to Walter Smith. The two minority reports, each signed by a single member, unimportant in arguments or in number, as they were, yet voiced an opposition to the school, as well as to the head master of the school, and, if an inference may be drawn from the use since made of them by the governor, an opposition in the State not insignificant in numbers.

They indicated a possibly growing hostility to the whole effort to develop and improve the industries of the State by means of elementary art training in the public schools.

The report had recommended a reorganization of the board of visitors. This recommendation was not acted on. This being the case, it needed no prophet to predict the ultimate result.

Meantime the elements of opposition in the city, before alluded to, united, and succeeded, after several vain attempts, in outvoting the supporters of Professor Smith in the school committee; * and thus, after twelve years of arduous and admirable service in the schools of Boston, Professor Smith's connection with them closed.

Similar influences ultimately prevailed with the State authorities, and on July 6, 1882, Prof. Walter Smith ceased to hold the positions of State Art Director and of Principal of the Normal Art School.

With the loss of Professor Ware, well known as the professor of architecture in the Institute of Technology, whose connection with the

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* See letter from "A practical teacher," in Boston Herald, for concise résumé of Walter Smith's work for Boston schools, Appendix D, IV *a*.

school ended in 1879, and who subsequently removed to New York to take a professorship in Columbia College; of the director, Walter Smith, and of several of the experienced teachers, who so long served with Professor Smith, and whose removal from the school preceded by a year that of the director, the Normal Art School entered upon an untried experience; but it may be fairly presumed that its course will be upon the lines laid down by Walter Smith and carried out by his well-trained pupils, since time has proved the correctness, comprehensiveness, and value of his methods, and the thoroughness of the training thereby acquired.

II.—REPORT OF THE COMMITTEE ON EDUCATION TO THE MASSACHUSETTS HOUSE OF REPRESENTATIVES.

Only such brief extracts from the first report of the committee of the legislature as seemed material to a connected account of the legislative investigation of the Normal Art School, are given in the pages immediately preceding; but it is due to the school and its supporters that the testimony of its utility and of its value to the State, so emphatically set forth, should be here perpetuated.

House.] [No. 330.

COMMONWEALTH OF MASSACHUSETTS,
House of Representatives, May 5, 1882.

The Committee on Education, who were instructed to investigate the supervision and management of the Normal Art School, and consider what legislation, if any, is needed to secure its greater efficiency, report that it is inexpedient to legislate thereon.

For the committee,

D. DORCHESTER.

[Mr. Humphrey, of Athol, and Mr. Hill, of Haverhill, dissenting.]

The report is accompanied by four "statements" and contains 23 pages. "Statement 1" occupies thirteen pages; "statement 2," five; "statement 3," one; "statement 4," four. "Statement 1" is by the majority of the committee, from which is quoted as follows:

The majority of the committee on education agree in the following statement of the case under investigation:

As to the vital question of the value of the institution and its permanence, which has, to some extent, obtruded itself upon us during our inquiries, we are fully persuaded it is too intimately connected with the mechanical industries of Massachusetts to be easily discarded. Artisans in the Old World are able to work from drawings, having all the dimensions of the things to be constructed upon them; but no workman can read a drawing so as to be able to work from it unless he has had instruction in drawing. It was the conviction of many intelligent citizens that Massachusetts could not hope for eminence in the higher manufactures, if the great body of the workmen in other countries were superior to our own in the arts of design, in the drafting of machinery, &c. Therefore, in the year 1869, leading citizens of Boston petitioned the legislature, asking for the establishment of a system of public instruction in drawing, that the artisans of the commonwealth might be able to successfully compete with foreign workmen.

The law making drawing a required study in the schools is given in full, and the fact stated that its provisions were practically nullified owing to a lack of competent teachers.

To supply this want, the State Normal Art School was established in 1873, in compliance with requests of leading representatives of great industrial interests in the State. It was the first institution of the kind ever established in this country, and was intended to be a training school to qualify teachers in industrial drawing. It was believed to be indispensable, as a means of enabling our manufacturers to successfully compete with the manufacturers of Europe. The material prosperity of the State obviously depends upon the development of the higher artistic skill. No adequate means for developing this have heretofore existed in our country. All our most skilled workmen, therefore, have come from Europe. It was evident that the future growth of these industries would be much hindered unless we could raise up at home men who could perform these high services. Such were the objects for which this school was founded—to prepare teachers for the industrial drawing schools of the State, and thus raise up persons of superior skill in technical drawing and high art culture.

It is now a matter of congratulation that Massachusetts has an art-training school whose curriculum and drill are as thorough as those of any European school, and whose influence is extending over a broad area. No other institution of this grade and scope exists in the United States; Massachusetts in this great work, as in many other movements of the higher civilization, leading the van of progress.

The committee then give tables of full statistics of attendance. They sum up a total of 1,089 pupils during the eight years ending July 1, 1881.

Your committee think that this institution, in the nine brief years of its existence, and especially when considered as the pioneer institution of its kind on the western continent, has a record of which we have reason to boast, entitling it to the fullest confidence of the people of Massachusetts. While only seventeen students have graduated with full diplomas, it should be kept in mind that several hundreds have taken certificates from the three lower classes, declaring their qualification to teach art in the primary, grammar, and high schools of the State, and also in evening schools. Many have aimed only to fit themselves to teach in one of these grades of schools, and have gone forth to engage in the work. A certificate of having passed the studies in Class A signifies that the person is qualified to teach art in primary schools; in Class B, signifies a qualification to teach art in grammar schools; in Class C, in high schools, &c.

The catalogue for 1881 shows that in the years 1880 and 1881 ten students took certificates of qualification to teach in primary and intermediate schools, thirty-six in grammar schools, and eighty in high and normal schools—a hundred and twenty-six certificates in all, in two years. Could more have been expected? And the figures already cited show, too, that the sons and daughters of Massachusetts are chiefly receiving these benefits, only about three and a half per cent. of the students coming from beyond our State lines.

The importance of this institution to Massachusetts is underestimated, we fear, by many. Without instruction in industrial drawing, skilled labor, such as the world requires to-day, is an impossibility. The period in which Massachusetts can control the coarser manufactures is rapidly passing away. Other sections of the country, taking up this kind of products, are destined to outdo us in a short time. Massachusetts, if she would hold her ground and make for herself a sure commercial future, will be obliged to enter upon the manufacture of finer and costlier textiles, for which we have hitherto depended upon the European markets. The commercial value of industrial products depends upon the amount of skill employed in producing them. We are in danger of not appreciating this economic principle. While our American *exports* represent the results chiefly of unskilled labor, on the other hand our *imports* represent the results of skilled labor, of art, and taste. In achieving success and wealth in this department of industry, Massachusetts is plainly called to lead the American States. In so doing, she will place American products in successful competition with the best products of Europe, and her skilled industry will be a more effective protection than a high tariff.

But it is impossible to gain this result without a general dissemination of industrial art among our people. To this end this institution is a necessity; it raises up and qualifies teachers of art. Such is the commercial value of the State Normal Art School.

In view of the foregoing facts, your committee believe that the Normal Art School should be maintained, and its benefits should be widely distributed in the commonwealth. It is important that the school committees of the various towns and cities should arrange for the introduction of instruction in drawing, as far as possible, in the public schools where it has not already been done, and that industrial art culture should everywhere be more extensively cherished.

We come next to the troubles that have recently afflicted this valuable institution.

The delicate duty of investigating the supervision and management of the State Normal Art School, on an order referred to our committee, was mandatory; but we cautiously entered upon our work, hesitating to open the door of investigation until convinced that the public good really required it. Even then we hoped that our inquiries might be confined to existing difficulties, without traversing the transactions of previous years; but it soon became evident that such restrictions were not practicable, and the fullest scope was given to the investigation. It subsequently became apparent that many of the matters involved, however important they may have seemed to the parties concerned, were petty and trivial. * * *

A summary of this portion of the report has already been given, as above stated. The two members of the senate who sign the "second statement" concur with the majority in their estimate of the importance and usefulness of the Normal Art School.

The third "statement" briefly questions the advisability of continuing the school. The fourth "statement" is much longer, and, as the following extract shows, the writer differs widely from the judgment of the majority in his estimate of the value of the school:

> From the conclusions reached in that part of the majority report relating to the general character of the school the undersigned must radically dissent.
>
> It cannot be admitted that its permanence is assured or that the kind of education imparted there has any just claim for support from the State.
>
> What the commonwealth needs, and all that it ought to foster in the way of art education, is that part of it directly related to its industrial interests. For this the school was established. From its original and ostensible design it has widely departed. How, for instance, teaching water-color, modeling in clay, and modeling from the nude human figure has any connection with industrial education it would be difficult to imagine.
>
> If the State wishes to furnish this kind of education for its citizens at public expense, why not go still further and provide instruction in law, medicine, theology, and particularly in commercial pursuits? A dividing line must be drawn somewhere, and if this be at graduation from the high-school course, the State cannot be called illiberal.
>
> The drawing-books new published have arrived at such a state of perfection that they are sufficient, in the hands of teachers of ordinary intelligence, for all primary and grammar school work. If, however, the commonwealth wishes to furnish any facilities for a higher education in this direction, scholarships can be established or worthy and talented pupils can be aided in the Institute of Technology and the Worcester Free Institute, where legitimate instruction in this work is reduced to a science. Should this be done, some means should be adopted for securing returns in the way of teaching in the State by those thus benefited.
>
> For the support of the Normal Art School the State treasury has been annually depleted to the extent of from fifteen to twenty thousand dollars. By the expenditure of half this amount, as above mentioned, it is believed that larger and better results could be attained.
>
> Questions as to whether results commensurate to the expense have been secured; as to the government of the school, the insubordination of some of its teachers, and the wisdom of the importation of teachers; whether the State at large has received any considerable benefit in return for an outlay for which the entire State is taxed, and for which two or three counties chiefly receive the advantage; why so small a proportion of those attending the school engage in that teaching of art in our public schools which they have promised; and whether any impulse has been given towards raising the standard of our finer manufactures, are all included in and overshadowed by that of its right of existence.

The inability of this legislator "to see any connection" between the kind of art instruction given in the normal school and "industrial education" sufficiently disposes of his claim to possession of the kind of knowledge that would enable him to form an intelligent judgment upon such a question.

He might, it is true, have inferred such a connection from the fact that such studies as he criticised had been adopted in the school, and that this would hardly have been done if they had not been thought to be of use: but no modest doubt as to their own want of knowledge seems ever to disturb the complacency of the class of legislators of whom we have here a typical specimen.

It would hardly have seemed possible that a governor of Massachusetts should have thought the author of this report, of a minority of one, such an authority on industrial art education as to give to his opinion the honor of a place in the gubernatorial address to the legislature, but so it proved in the opening session of 1883.

III.—MESSAGE OF THE GOVERNOR AND ACTION BY THE LEGISLATURE.

In the annual "address" of the governor of Massachusetts to the Legislature, in January, 1883, a large space is given to criticism of the methods of public education in the State, and the charge is made that the interests of the many are subordinated to those of the few. Much stress is laid upon the necessity of having the best teachers for the primary schools, all of which is excellent; but the worthy governor seems to think, if not with Dogberry, that "reading and writing come by nature," at least that the ability to teach them does, for, of all illustrations, he selects the normal schools of the State, the schools whose especial business it is to train competent teachers for these primary public schools which he has so much at heart, as examples of the unjustifiable manner in which the few are taught and the many neglected! and gravely asks, "What right have these young men and women to so expensive an education out of the common school fund of the State?"

Since this is the attitude of the governor towards the regular normal schools, it may readily be understood that the Normal Art School should come in for a large measure of criticism, for if it is an outrage on the children of the State to divert any part of the school funds for the purpose of giving to the public schools well-trained teachers, how much more obnoxious must be a school whose only work is to afford the means for securing the efficient teaching of a single study?

As an incident in the history of the school, and as illustrating some of the difficulties that have been met with, that portion of the address is here quoted in full:

> In order that I cannot be misunderstood when I say that our school fund money is diverted extravagantly from the many to whom it does belong to the use of the few to whom it does not belong, I illustrate this topic by the facts concerning an industrial school established in this State in 1873, under the name of the State Normal Art School. It had been in existence eight years up to the time of which I have a report. During its existence the whole number of pupils resident in Massachusetts had been 1,047, an annual average of 131, who attended it for any time at all. Of the whole number 42 resided outside of the State. Most of its pupils attended the school a very short time each. Only *seventeen* of the whole number graduated from the full course, and only a small part of the whole number were ever qualified to teach in one or more branches of art education. Of the total number of pupils residing in the State, to wit, 1,047, 839 came from *two counties*, and 44 only came from six other counties of Massachusetts, or only two more than those who came from other States. Can such a school as that be deemed to be a common school of Massachusetts, equally open to all her citizens, or is it a special and very uncommon school for a few only? Each Massachusetts scholar ever in that school has cost the State $128.46, being his proportion of $134,507.16, which the school has cost the State during eight years. A large proportion were evening scholars, the percentage of whom was 30 in 1881. It is fair to conclude that the same percentage obtained during the eight years of its existence. Ought the common school fund, or money derived by taxation, to be given to such a school? Are the branches of learning taught in it those necessary to the common education for the whole people? A committee of the late legislature

made an investigation of this school, and I give an extract from the report of the minority of the committee which is not in conflict, as to the facts, with the majority report:

"What the commonwealth needs, and all that it ought to foster, in the way of art education, is that part of it directly relating to its industrial interests. For this the school was established. From its original and ostensible design it has widely departed. How, for instance, teaching water-color [painting], modeling in clay, and modeling from the nude human figure has any connection with industrial education, it would be difficult to imagine."*

This "minority report" was, as will be seen in the summary of the legislative investigation given in the preceding pages, the opinion of but a single member of the legislature. To this individual utterance, thus indorsed by the governor himself, no comment is called for other than the somewhat familiar saying, never more fitting since first spoken than in this instance, "*ne sutor ultra crepidam.*"

The next paragraph of the address, with its quotation from the "majority" report, shows for itself. The allusion in the report was, evidently, to the unfortunate differences in regard to management, and had no possible reference to the question of the utility of the school:

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* In this connection the following words, from an address made to the Trade Guilds of Learning in England, on "The Decorative Arts," by William Morris, poet, designer, and manufacturer of decorative art goods, than whom no man has exerted a more potent influence in promoting and popularizing the industrial arts in Great Britain and the United States, are pertinent.

It was with a view to give the school children of Massachusetts such training in the elements of industrial art as would make them more artistic and skilful as workers that the study of drawing was introduced.

The Normal Art School was designed first as the most speedy and efficient instrumentality of affording necessary instruction to the school teachers who were to teach the new study; second, to train a few men and women so thoroughly that they should be masters of their art, fitted on the one hand to direct the schools of the town, city, or State; on the other, to apply their skill directly to its artistic industries. Of the value of this study and of the best way of teaching it, Mr. Morris says:

"All handicraftsmen should be taught to draw very carefully; as indeed all people should be taught drawing who are not physically incapable of learning. * * * As to the kind of drawing that should be taught to men engaged in ornamental work, there is only one best way of teaching drawing, and that is teaching the scholar to draw the human figure; both because the lines of a man's body are much more subtle than anything else, and because you can more surely be found out and set right if you go wrong."

Since quoting the above, which is a complete answer to the objection urged against the instruction given in the Normal Art School, the following explicit reply, made by one of the accomplished teachers of the Normal Art School to similar objections, has fallen into my hands, and, as the matter is one of vital importance to the general subject of industrial art education, this reply of the art teachers to legislative criticism is here given. It occurs in a paper read before the Massachusetts Industrial Art Teachers' Association in Boston, December 28, 1882, by Miss Deristhe L. Hoyt, published by the association in 1884:

"The question has sometimes been asked why so much attention is given in our Normal Art School to the studies of historic art, color, and the human figure, when it is a school whose primary design is to fit its pupils to be teachers of industrial drawing. Our answer is, that we believe that in all schools of design and industrial schools there must be, together with the study of the mechanical arts, a large degree of general art culture; indeed, that the art influence should dominate in order that artistic work may be accomplished. If the faculties of design and invention are to be awakened into successful action, it must be done by the study of art and nature. The Greeks aimed at the perfection of decorative design; and insomuch as the study of the human form more than aught else helped them to arrive at that perfection, they carried it further than has ever been done before or since. The result we see in the purity and exquisite beauty of their designs, which are yet examples to the whole world."

If any desire yet further authority for teaching of drawing and modelling from the human figure in the Normal Art School, they are referred to the concluding remarks of Mr. Sparkes, now head master of the Kensington art schools, formerly in charge of the Lambeth Art School, in a paper upon the origin and development of the Doulton ware and Lambeth faience, extracts from which will be found in Appendix A to this report.—ED. ART REPORT.

> I read from the report of the majority these words, which may or may not refer to what I have quoted from the minority:
>
> "Many things connected with the case should be left to fade into oblivion as unfortunate occurrences which cannot be too soon forgotten."
>
> Should there have been taken from the educational funds of the commonwealth $10,696.42 for salaries of teachers alone in a single year, and $5,234.37 for other expenses, making a total of $15,930.79, for such a school of such usefulness? Is the poll-tax to be wrung from the earnings of the laboring man to support, under penalty of disfranchisement, this school? The primeval curse was, "In the sweat of thy face shalt thou eat bread," not to teach the youths of other States to model nude human figures in clay. This art school was under the control of a board composed of some of the best and purest men of earth. Their very purity and goodness was the shield which made its existence, and what was done in it, possible.

This attempt to array against the school the prejudices of the very class in whose interest it was founded and for whose children it is designed, is a typical instance of one of the most serious of the many obstacles that have retarded every onward step in the progress of the race.

This whole movement for industrial training in the free public schools, to promote which the Normal Art School was found to be so essential that it was forced upon the educational authorities as the only expedient equal to their needs, is a movement directly in the interests of the laboring classes, and therefore of all classes; for nothing which affects the laborers of any community can long be a matter of unconcern to the whole community.

If any reader who has taken note of the arguments and statistics recited in the introductory chapters of this Report fails to admit this, further argument here would be useless.

THE LEGISLATURE EMPHATICALLY SUPPORTS THE SCHOOL.

Fortunately for the interests of the Normal Art School and for the training of the public school children, the legislature, whose duty it was to consider the address, differed in toto from the governor in their estimate of the usefulness and necessity of the regular normal schools of the State as well as of the Normal Art School.

That part of the governor's address relating to education was referred to the Committee on Education. The order relating to "the expediency of continuing the school" had also been referred to this committee. In their report to the House of Representatives the committee included both topics.

As an authoritative refutation of the charges made in the governor's address, and as a triumphant vindication of the value of the school to the educational system of the State, this report is here given in full:

House.] [No. 56.

COMMONWEALTH OF MASSACHUSETTS,
House of Representatives, February 9, 1883.

The Committee on Education, to whom was referred the order to consider the expediency of legislation concerning the State Normal Art School, and the advisability of abolishing the same, and also so much of the governor's address as relates to the subject of education, submit the following report:

That, as to the order first mentioned, it is inexpedient to legislate.

That as to that part of the address of his excellency the governor which relates to education, so much as refers specially to the State Normal Art School may properly be considered in connection with the foregoing order, being closely kindred thereto.

(1) So far as the strictures of the address bear upon the alleged inequality of benefit conferred by this school upon the different parts of the State, it is not peculiar to this school that it does not advantage all individuals and sections alike, since no school or institution which by reason of its locality is of greater convenience and use to those situated near to it than to those far from it can do so. The Normal Art School does not differ in this respect from other common schools which are equally open to all but cannot profit those who are remote from them, or have few children or none able to enjoy their advantages, so much as those whose geographical position and circumstances and the constitution of whose families favor them in this respect. The committee think such a school as the Normal Art School *can* "be deemed to be a common school of Massachusetts, equally open to all her citizens."

(2) So far as the criticisms of the address imply or assert that the Normal Art School has "departed" in fact "from its original and ostensible design," they point, it would seem to the committee, to a change in the methods and administration of the school rather than to its discontinuance, leading to the conclusion that what is wanted is connected methods and a better administration, not abolishment.

And the committee cordially second every recommendation of the address which looks to the strictest economy in the expenditures for the school consistent with its highest efficiency, and to a sincere confinement of its lines of instruction to the proposed objects for which it was founded.

(3) The committee find themselves compelled, in justice to the school, to say further that after a full and patient hearing of all that was presented to their attention by way of objection to its claims to the public confidence, on its merits and its history, they find it to have rendered real and important service in the diffusion of the knowledge of industrial art, in the qualifying of teachers to impart this knowledge, and in the practical training of many artisans and mechanics to a higher skill in their respective callings, and that it is capable of effecting, and is reasonably certain, if continued under conscientious and competent supervision, to effect all these results in a higher degree in the future than it has done in the past.

The committee are confident that if the taxpayers of Massachusetts could know to what an extent the Normal Art School has already contributed to improve the quality, to enhance the money value of the skilled labor of her people, and the demand that now exists in her various workshops and factories for exactly the kinds of instruction which this school was designed to give and is giving, they would forbid its abolition; if it were swept away, they would lose no time in re-establishing it.

CHARLES F. GERRY.
BENJ. F. CUTTER.
F. S. RISTEEN.
E. B. WILLSON.
JOHN A. AIKEN.
E. T. EASTMAN.
W. H. FRIZZELL.
JOHN WHITEHILL.
DANIEL BUTLER.
CHAS. A. MACKINTOSH.

At the Harvard commencement dinner, June 27, 1883, the governor, in replying, *ex officio*, to the formal toast "The Commonwealth of Massachusetts," made his next public utterance upon educational matters; and, while no remotest allusion was made to the Normal Art School, there were such utterances concerning the present tendency of education towards the actual needs of modern life, as show that the governor has at heart, that very quality and kind of education, to promote which the Normal Art School was invented and established; and, therefore, if its friends can show that it is actually doing this very work of training the children of the State in practical directions more efficiently than could any other instrumentality, which is what its friends claim and believe, then it follows that the Normal Art School may yet find in this governor a strong supporter. The following is the passage of the speech referred to:

After recounting the purpose in view when the university was founded, namely, "to educate young men in the three learned professions of which by far the chief was the ministry," he showed how new demands for instruction in other kinds of learning came—met after a time by

Harvard, and, as met, so responded to with gifts by alumni and others, "a bounty administered for the public without stint"—he says:

> Mr. President: If you will allow me to say so much, you will find as you widen the benefits to the people, just so far, with perhaps an increasing interest, will you have those benefits returned back to you from the alumni you send forth. [Applause.] The world is ceasing to need so much of a given kind of teaching as was needed when your college was founded; it has become practical, worldly, if you please, and you must follow that. As your president has shown me much more than I knew before, and more perhaps than some of the alumni, what the college is now doing — teaching all the practical learning of the day — see to it that the chemist, the engineer, the mechanic can learn here all that can fit him to carry on the world, because by those hereafter the world is to be carried on.

IV.—LETTERS FROM BOSTON PAPERS.

The following letter, which appeared in the Boston Herald during the contest in the Boston school committee over the retention of State art director Walter Smith, as director of drawing in the Boston schools, gives a clear statement of what he had then accomplished for the schools, and inferentially, shows the origin of some of the opposition to his continuance; for these reasons it is here inserted, as throwing light upon the movement which, unfortunately for Massachusetts, culminated in Mr. Smith's removal from his various official positions; with the final result that Walter Smith, although he had in good faith become a naturalized citizen, abandoned a State and a country which had shown themselves so ungrateful, and returned to England, where he was cordially welcomed and at once placed at the head of the art department of the Bradford new Technical College, a most responsible and well paid position.

THREE QUESTIONS ON ART INSTRUCTION IN THE PUBLIC SCHOOLS ASKED AND ANSWERED.

To the Editor of the Herald:

First.—For what was Prof. Walter Smith invited to this country?

Our legislators and manufacturers, having felt the need of some influence to raise the standard of design in our home manufactures, and develop our own home talent, he was invited to organize a system of art instruction in our public schools, as the best means of accomplishing it, his manner of doing this having very properly been left to himself.

Second.—Has he done the work for which he came?

Ten years ago the public school teachers, as a body, knew nothing of drawing, and shrank from teaching it. They thought it to be the province of special genius only, and they could not understand why it should be forced upon them to teach, or why the industries of the country demanded it.

Professor Smith organized them into teacher's classes for drawing, with the best assistant he had at command, amid low mutterings of discontent and disbelief, mingled at times with open opposition; and drawing at the same time was introduced into all the classes of the public schools.

To-day they have learned the elements of drawing; they can teach it to their pupils as satisfactorily as they can other branches; and though Professor Smith may not have visited each little class in the city, his influence and leading power have been unquestionably felt all through the schools, so that now every pupil has the opportunity to learn to draw.

Home talent has been educated, the taste for good design cultivated, the animus of the movement spread far and wide, into circle after circle, more or less connected with the schools, into the regions of fine art as well as industrial, till a truer æsthetic light is shed over our country to-day than has ever before been known in its existence, and all developed within the last 10 years. In fact, all the art of to-day in our country, feels the searching power of the sound art teaching of Prof. Walter Smith, however much it may disagree in the manner of working.

The evening and high schools have been the last struggle, for it is only until now that they have been ready to take up the advanced work. The evening schools, for want of trained teachers, and the high schools for want of trained teachers and pupils.

Again the cry for special genius for high school work has been raised, and the charge of personal feeling against the special teachers in the high schools as reasons for dismissal. Professor Smith bravely stemmed the tide and dismissed the specialists, put his shoulder to the wheel, has taught the high school teachers himself, showed them that the pupils could do it, if the teachers would, and success is coming. His undaunted bravery is everything to be commended, and shame on the teacher who hangs back because she or he doesn't believe it or doesn't want to learn. What right have we, as teachers, to oppose progress in our schools, in any department, by such opposition?

A course has been marked out for evening school work more rigid and exacting than before, and, though every pupil now cannot be allowed to choose this, that or the other branch at his own option, an elementary course of two years thorough evening study is granted them, superior to any evening course ever before offered in this city. Who has been the life and leading spirit of all this work?

Prof. Walter Smith, able in all the departments as every one admits. Day and night he has worked to develop this cause of industrial drawing, and our shop windows to-day show the wonderful change that has been wrought in our designs for manufactured goods during the past few years, while our little children stand to-day by their mothers, and speak intelligently of this or that, as the better design. Who has been the leader of all this? Prof. Walter Smith, director of drawing in our public schools. And this is what he has done; and, if he has not done it in precisely the way that many would have prescribed, it has been accomplished, nevertheless, and in spite of obstacles that would have appalled one less strong or less in earnest. Is it what he came for?

Third.—Is he needed any longer?

One of the strongest reasons for the existence of our high schools, as given by prominent educators, is this: The influence they have to keep up the standard for excellence in the lower grades. Take it away and, the leader gone, the separate branches strike out for themselves, and a retrograde movement begins.

The teaching of drawing in our public schools has a broader meaning than merely drawing, it means the life or death of our manufacturing interests as a nation, and we want a leader and an expert on whom we can rely in time of need, and to keep up or advance the standard of excellence. We want a foreman in our workshop who, if he never lifts his hand to do the labor, has the brains to guide and direct.

We care not whether he be Englishman, Irishman, or German, we want the man; and the meanest cry that can be possibly raised is the cry against the nationality of the person or the coat the man may happen to wear. Americans formed from every nationality all over the wide globe should shame to raise such objections, more especially to an invited worker.

Massachusetts is one of the leading manufacturing States. Other States are looking keenly at her to see if her leading city, her Athens, will coolly dismiss from her service the best expert and teacher of drawing in the country, at the bidding of disappointed teachers or politicians. Where is the man among us who could go to a foreign land, and try to engraft on its school system a subject so foreign to it, as drawing was to ours, under such difficulties as he has had to submit to, and not make some mistakes? And we should be proud of the man, who can say as honestly as he can, that he has never taken one penny to pay any recommendation for any drawing materials in the country, though approached many times for that purpose, only receiving a copyright royalty for drawing books dearly paid for by hard work. * * *

Let Boston think twice before she loses this man. He is needed all the time quite as much as a director of music, but rather let this school committee make a glorious record for itself, and, by doing away with the annual elections, sustaining the salaries of its teachers, and electing and sustaining its director of drawing.

A PRACTICAL TEACHER.

BOSTON, *April* 1, 1881.

The departure of Professor Smith from the United States drew out a letter printed in the Boston Advertiser of July 14, 1883, which is interesting for what it tells of the man, Walter Smith, and also as evidence that one citizen of Massachusetts, at least, who appreciated that his untimely taking off was an absolute loss to the State, was sufficiently outspoken to say so.

With this letter, the references in the appendix, to the Normal Art School and its founder, end.

WALTER SMITH.

To the Editors of the Boston Daily Advertiser:

The return to England of such a man as Walter Smith, who, for more than ten years, has given the schools of Boston and of Massachusetts the benefits of his instruction in various branches of industrial art, ought not to pass unnoticed.

Without entering at all upon the question of the causes which led to his being superseded in his office and work, it is due to Mr. Smith, as well as to his community, for which he labored so conscientiously for more than ten years, that there should be some public recognition—even if only in the form of a fugitive letter to a newspaper—of the value of his services in his chosen profession.

Mr. Smith came here from England, with his family, at the invitation of this city and State. He was invited after a careful inquiry as to his capabilities and character. He brought with him a thorough training, perfect integrity, skill in teaching, and a lofty and uncompromising idea of the true dignity and usefulness of industrial art. He gave us his best, and his best had been found worthy the commendation of so severe and austere a judge as Ruskin.

The impulse which he gave to popular art education was immense. Pupils came to him from all sections of the country—from Chicago and Saint Louis, as well as from Boston, and all carried away, besides their technical learning, the memory of a devoted and faithful teacher.

But Mr. Smith was more than that. He was a man of vast stores of information, which, in conversation, flowed almost unconsciously from him, like a full-fed fountain.

He was also warmly interested in the success of all good systems of education and overflowing with desire for the welfare and freedom of the people, as well as their training in all useful and graceful arts.

No one can read his printed letter to the trustees of the Pennsylvania Museum and School of Industrial Art and not feel that the departure of such a man is a national loss.

A single sentence from this paper so fully expresses the man that I beg leave to quote it: "I warn you, therefore, that if you recognize the principle which is the very spinal column of my scheme, viz, that art is based on science and law, and that neither artists, teachers, nor designers can be produced except through a scientific education; you will take your stand on the ground which gave us a Michael Angelo, and you will be mercilessly criticised by every half-educated artist."

To these high aims he wholly gave himself, and he was intolerant of those who advocated anything less severe and exacting. Nature and truth were his teachers, and he endeavored to interpret them to his pupils.

The loss of such a man may be unnoticed for the moment; but it cannot be a good omen for the future that he should be allowed to leave us just at a time when his work was beginning to bear fruit.

Massachusetts has hitherto been in the habit of cherishing, rather than repelling, such men. Think of what the museum at Cambridge would be had Agassiz returned to Switzerland at the end of ten years of labor here.

Whatever the cause which has led to Mr. Smith's return, the useful work that he has done ought not to be overlooked, and all good wishes will flow out to him from multitudes who have been his pupils or enjoyed the delight of social intercourse with him.

H. S.

SOUTH BOSTON, *July* 11, 1883.

APPENDIX E.

PAPERS RELATING TO THE INDUSTRIAL ART TRAINING EXHIBITS IN THE CENTENNIAL EXPOSITION.

I.—Introductory. Industrial Art Drawing at the Centennial Exposition.

II.—Preparation for the Centennial Exposition. Extracts from papers published in New England Journal of Education of July 10, 1875.
  - (*a.*) Art Education at the Centennial, by Walter Smith.
  - (*b.*) Extract from paper by Baron von Schwarz-Senhorn, minister from Austria-Hungary to the United States and director general, Vienna Exposition.
  - (*c.*) Extracts from suggestions to educators as to what to exhibit, prepared at request of the United States Commissioner of Education, by Committee of Superintendents.

III.—Popular Instruction in Elementary Drawing: A report based on the International Exhibition at Philadelphia. By Charles B. Stetson.

IV.—Work of Cincinnati Carving School shown at the Centennial. American Architect, March 31, 1877.

V.—Report on the present condition of drawing, as taught in Public and Normal Schools, made to the Department of Art of the National Educational Association at Madison, Wisconsin, July, 1884, by the committee to whom the subject was referred the year previous.

VI.—Plan of the courses in drawing, as taught in the public schools of Belgium, as reported to the International Educational Conference in London, August, 1884.

I.—INTRODUCTORY.

INDUSTRIAL ART DRAWING AT THE CENTENNIAL EXPOSITION.

In the plans of the organizers of the Centennial Exposition in Philadelphia in 1876 the comprehensive subject of education in all its branches could hardly escape some recognition. That its importance was not fully appreciated, or at least that the value of so grouping the educational exhibits as to afford an opportunity of seeing and considering the whole subject in its entirety, with the due relations of its different parts; such an exhibition of education as was given of agriculture, or of machinery, for instance, was not provided for, was painfully evident to all who at the Centennial, desired to study this subject.

Such students of education found themselves obliged to search for the several educational exhibitions, which were scattered all over the "main building," hidden away in the galleries and out of the way places, and then, in order to complete their observations, to go to the United States Government building and to the Pennsylvania school building. In this building, the enterprising State superintendent of education, Hon. J. P. Wickersham, had arranged a most admirable and effective showing of the school system of Pennsylvania, with plans of school buildings, articles of school furniture and apparatus, tables of school statistics, and examples of scholars' work. This comprehensive showing of the system of a single State, emphatically illustrated what the education exhibit of all the United States might have been, if treated as a whole, and properly arranged and displayed together in one building.

Whatever may have been lacking in the provision of proper accommodations for the school and other educational exhibitions, there was no lack of enthusiastic effort at preparation on the part of the educators, who manifested much interest and made earnest endeavors to do whatever was possible. At a somewhat late day the Centennial Commission designated the National Bureau of Education at Washington, to act as a central agency for the educational department of the Exposition. Commissioner Eaton issued a sheet of information.

The department of superintendence of the National Educational Association had already, in January, 1875, appointed an executive committee to act in co-operation with the Bureau of Education.

In evidence of the interest taken by educators generally may be cited the fact that the issue for July 10, 1875, of that leading educational organ, the New England Journal of Education, was headed "Education at the Centennial," and contained a general plan of the exhibition, with cuts of all the large buildings, the announcement by Commissioner Eaton of what had been done and was in preparation for the exhibition, with the programme of the exhibition relating to education and science, eleven classes; also the following articles, written with a view to stimulate and aid the preparation of educational exhibits, viz: "Public schools at the Philadelphia Exposition," by Hon. J. D. Philbrick, Boston; "Colleges at the Exposition," by J. M. Gregory, LL. D., Illinois; "Art education at the Exposition," by Walter Smith, Boston; "The century's educational record," by Rev. J. C. Stockbridge, D. D.; "Shall our school exhibition be a success?" by Hon. J. P. Wickersham, Pennsylvania; "National expositions, schools for the people," by Baron von Schwarz-Senborn, Austrian minister to the United States and director general Vienna Exposition; "Work for American educators; practical suggestions respecting the preparation of material for the exhibition of American education at the International Centennial Exposition at Philadelphia in 1876," by the executive committee of the National Educational Association.

When the exhibition at Philadelphia was opened, it was found that the subject of industrial art drawing was carefully and fully illustrated, by the exhibition in the gallery appropriated to them, in the main building, of examples of the work done in the Normal Art School and the public schools of the State, as shown by the Massachusetts school authorities. Besides this comprehensive showing of the working of a complete State system, there were many other similar collections of drawings by school children shown by the school authorities of towns and cities of other States; but these last were necessarily scattered in different places with the several educational exhibits, as has been stated, so that it was only possible to see them singly.

In the report by the late Mr. Stetson, which follows, the reader will have the opportunity of getting the results of such a comprehensive view, and of such special studies, as could only be actually had at the exposition by giving to the task much time and patience.

Few of those who visited the exposition were so well qualified to make an intelligent study of these several exhibitions as was the accomplished author of this report.

I have taken from the papers referred to, as published in the New England Journal of Education, such extracts only as were more directly connected with the preparation for the showing of school work in drawing; a class of school work particularly fitted to be shown in the "main building," because this elementary study of industrial art drawing, being essential in the training of all art workers, was directly related to the countless works there displayed; most of which, in themselves, strikingly illustrated the charming results of the skilful application of art to various industries.

These extracts show also, the preparation which was made for the several drawing exhibits, which will be found critically considered in the report by Mr. Stetson, which immediately follows; these two parts of this Appendix E are thus related, as showing the preparation for, and the result attained by, the exhibition of industrial art drawing at the Centennial; while the account, taken from the "American Architect and Building News," of the work shown in the women's pavilion by the Cincinnati Carving School, describes the results attained by the direct application of the kind of knowledge and skill, which is to be acquired by elementary school training in industrial art drawing.

An unexpected addition is now to be made to this Appendix as, while this volume is in the hands of the printer, I am indebted to the courtesy of Mr. John S. Clark, of the Prang Educational Company of Boston, Mass., for a manuscript copy of the valuable report upon the present status of drawing in the public schools of the country, made to the department of art at the meeting of the National Educational Association, held at Madison, Wis., in July, 1884; by the committee appointed at the previous annual meeting of the convention in Saratoga, 1883, to prepare such a report. The names of the committee were a guarantee that their work would be thorough and intelligent. The chairman, Superintendent MacAlister, of Philadelphia, had, as superintendent of the schools of Milwaukee, been among the earliest of American educators to introduce and approve the system of Walter Smith. Miss Locke, the secretary of the committee, now supervisor of drawing in Saint Louis, Mo., had been an early and favorite pupil at the Massachusetts State Normal Art School, and had displayed her qualities as a teacher when in charge of the drawing department in the Maryland Normal School, as elsewhere recorded in this volume.

The name of Superintendent Goodnough, of Columbus, Ohio, has become familiar to all interested in this subject, while Mr. Otto Fuchs, principal of the Maryland Institute, was long one of the chief instructors of the Massachusetts Normal Art School.

These names frequently appear in the volumes of Part I and II of this Report, in connection with the general subject; as well as in the accounts of the institutions with which they are particularly connected.

Aware of the intention of this committee to make a searching investigation into the present actual condition of the teaching of drawing in the public and normal schools throughout the United States, I have been glad, in the pressure of the preparation of this present Report, to know that this branch of the subject was in such competent hands and have hoped to be able to make use of their results; as I now do, through the courtesy of Mr. Clark.

As their review and comments upon the *methods* of school work, follows the plan of that of the late Mr. Stetson in his review of the *results* of such work, as shown at the Centennial, I have grouped the two reports in the same Appendix; a comparative study of the two may not be devoid of interest. In the "outlines for a course of study suggested, which follow the report, the influence of the movement towards manual training, and a more direct practical application of the elementary knowledge of drawing, often heretofore referred to, is very apparent. A certain logical form of statement is attained and the general purpose of each course clearly stated. A study of the programmes prepared by Professor Smith, as given in Appendix "D," will be of interest in connection with these plans; his plan of study for the Normal Art School accompanies the account of the Massachusetts State Normal Art School in the body of this report Part I.

It will be seen that this committee have not hesitated to speak plainly of such deficiencies as they have found. In so doing, granting that they are correct in their facts, they are fully justified. If universal training in industrial art drawing is capable of the usefulness which its advocates claim, it is certainly a wrong to the community, when in any instance, they are, as this committee affirms is now very often the case, imposed upon by a mere pretense. In case of an attempt to introduce a new study the wrong thus inflicted is aggravated; for the experiment is vitiated from the beginning, and no good results are possible.

On this subject the members of this committee have an undoubted right to speak authoritatively, as had Professor Smith, because they each know whereof they affirm.

Whatever may be thought of the criticisms, or of the plans of study embodied in the report of this committee; it is certain that their concluding recommendations must commend themselves to all thoughtful educators.

In connection with the suggested plan for the public school courses in drawing, as outlined by the committee of the National Education Association, the account of the plan of elementary training in drawing adopted by the Belgian authorities in 1879, as given before the recent International Educational Conference at the Health Exhibition held in London in the summer of 1884, will be found of interest as showing, not only the methods adopted, but also as stating the purpose kept in view in giving the training; the early age at which these studies are begun is also suggestive. The condensed summary of this address is from the report as given in "The Schoolmaster," August 2, 1884.

II.—PREPARATION FOR THE CENTENNIAL.

(*a*.) ART-EDUCATION AT THE EXPOSITION.

[By Walter Smith, Boston.]

There is, perhaps, no division of the subject of education capable of being more usefully and systematically displayed than that of art, whilst at the same time none can be made more confusing and misleading to the ordinary spectator by bad arrangements or by the associating together of exercises unlike in their origin and object. Every international exhibition has been wanting in the element of arrangement, by which the art education of different nationalities could be fairly compared. That in Paris in 1867, the best planned exhibition yet held, ignored the importance to the world of a just comparison and analysis of the instruction lying at the base of successful industrial art, for it has come to be acknowledged that drawing occupies no less important a position.

There is an opportunity at Philadelphia, therefore, for securing at least one original feature in an international exhibition unless the allotment of space has been already made in a manner to render this impossible, which it is seriously hoped may not be the case.

THE INDUSTRIAL ART DRAWINGS TO BE LOOKED AT AS ILLUSTRATING A SYSTEM.

The great difference between a display of works of art and exercises in educational art is, that each picture, statue, or architectural design is complete in itself, whilst the chief interest of the school exhibitions is the arrangement of studies and grading of subjects to display a system or scheme of instruction. This takes away the importance of and even the interest in individual works, for the skill displayed in individual drawings or exercises does not affect the greater question of system or arrangement, though it may increase the attractiveness of the show to the sight-seer.

Ordinary school exhibitions of drawings are nearly worthless, because, ignoring this distinction, each work is made to appeal for approbation, as if it were a work of art (which it seldom can be), to be judged on its merits alone; and thus there is only a display of monotonous and childish imperfection instead of a chain of interesting progressive work, in which each drawing occupies a subordinate, though necessary, position. It cannot be too clearly recognized that the motive for exhibiting works of art should be to display attainments, whilst the object of school exhibition should be to demonstrate the aims sought, and these do not depend on the achievement of any one or even all the drawings.

NO NATIONAL SYSTEM OF ART EDUCATION EXISTS AS YET.

The subject of art-education is receiving much attention from educators just now, and many who have either a limited experience, or strong sympathies, are loud in their praise or condemnation of French, English, or German systems or methods. It may be as well, therefore, to state that no European country has yet laid down a comprehensive programme of instruction in art for its public schools of all grades. A national system of art-education does not yet exist, and that which is so described will turn out, on examination, to be either the experience of private or disjointed bodies or the curricula of special and technical schools, carried on, it may be, under the auspices or encouragement of governments, but having no pretensions to be graded and comprehensive in the way that general education may be so described, proceeding in regular order from the infant school to the university.

This makes it the more necessary that, in arranging and examining the contents of the art-educational section of the coming exhibition, distinction between the different classes of work should be strictly preserved, and their presentment be thoroughly explanatory, giving all needed information concerning them. If one celebrated French school were to display remarkable drawings, the work of adults or skilled workmen employed in ateliers, and this display could be mistaken for the exercises of children in the public day schools, or be liable to be compared with such exercises sent from other countries, the only result would be to mislead and confuse the public mind and plant wrong impressions concerning the value of systems or schemes of instruction.

It is problematical whether any European country will seek to exhibit more than the studies of its great schools of art, and, before we humble ourselves in abasement at the glorious spectacle, let us remember that up to the present time this country has had no opportunity of producing works of a similar character. If Cologne Cathedral or Westminster Abbey were to be placed in the exhibition ground, it would not be quite a fair comparison to place beside them a wooden New England meeting-house, though our architects might learn much from the abbey and the cathedral. The needs which produced the two classes of edifices were as different as the structures themselves, and these having passed away, and being at first incomparable, it would be folly to compare the buildings.

HOW TO GROUP THE DRAWING EXHIBITS.

In order to maintain a distinction between the several classes of work likely to be displayed, they may be thus grouped in three grades:

First grade. Exercises of pupils in schools for general education — elementary drawing.

Second grade. Exercises of pupils in special or technical schools of art or science — industrial drawing.

Third grade. Exercises of pupils in professional schools of fine art.

To illustrate this grading, the exhibition of the class exercises of the Boston day schools, recently held in Horticultural Hall, or that of the Newton public school, would come under the head of first grade; the works displayed from the free industrial classes for adults, and of the Lowell class of Design, would be classed as of second grade, and if the Ecole des Beaux Arts or English Royal Academy exhibited its works, they would be of the third grade.

It will be seen that there is of necessity a great difference between the character of work displayed by any two of these three grades, and usually as much variety in the ages of the pupils — no two can be compared together, though they may be contrasted, but it will be found of the utmost value if work in each grade, from every country represented, could be carefully compared and comprehensively reported on by competent judges. The opportunity is one which has never before occurred in this country and will not occur again during the lives of those among us who are men now. It has never been properly utilized in former international exhibitions, and in none has it been of so much importance as this. At present this country offers few, if any, opportunities for the attainment in the highest skill in constructive industry, and the student who aspires to become a professional artist has to become a European exile. The remedy for both of these misfortunes, for they are nothing less, is the establishing, in the first place, of a sound and scholarlike scheme of industrial education in the public schools of every State in the Union, and finally the development of technical schools, academies, and museums and galleries of industrial and fine art masterpieces.

The duty of all persons who are interested in the advancement of education is to coöperate with the Centennial managers, and show what they are trying to do, whether they attain it or not. No one person or no one State monopolizes wisdom and experience in any branch of education and could all the best work of each; be gathered together in one place and be displayed alongside of the best of the same grade sent by every European country, it would create for us an Industrial Art University which would inevitably graduate a large class of accomplished students and critics during the Centennial year.

The fact that we do not consider our work perfect should not prevent our exhibiting our aims and whatever results they have already produced; for it will be impossible that an intelligent person can examine a collection of even imperfect specimens without learning a great deal, whereas if every State, city, or school should wait for perfection in results before displaying its efforts in that direction, there could never be an opportunity of learning from the experience of others.

Many cities and States are ready to do something in the direction of industrial education if they see their way clear to attain even moderate success, but some have tried only to fail and receive discouragement, and are now in a condition of expectancy waiting for others to solve the difficulty, and when the way becomes manifest they will join in the onward movement.

The opportunity, which can be secured if all coöperate in making a complete representation of the educational department, will be of the highest value to educators in every city, town, or village. It may, however, become necessary that, for the sake of uniformity of arrangement, many cities may have to combine in one common exhibit, or that all the cities in a State be classed in a group, each showing its special method.

The great thing to secure is perfect clearness and understanding of what the works exhibited are, as well as what grade they belong to, and then we may expect a definite and valuable contribution to a correct public opinion on this subject. (New England Journal of Education, July 10, pp. 18 and 19.)

(*b.*) NATIONAL EXPOSITIONS, SCHOOLS FOR THE PEOPLE.

[By Baron von Schwarz-Senborn, Austrian minister to the United States, and director-general Vienna Exposition.]

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I think the time not far distant when every child in Austria will not only be compelled to learn reading and writing in the primary schools, but also, at the same time, drawing. Thus have we provided for the youth, but what must be done for those grown children, the adults, in Austria, who have learned little or nothing? They did not have such large opportunities of schooling as their children now enjoy. A man thirty or forty years of age cannot go to school, but he can be instructed by eyesight or object teaching, such as is afforded by the exhibitors and other similar means. One of those means I first referred to is traveling. What is travel? Travel is education. You learn many things in traveling by observation. You are taught in that way. Therefore this is object teaching.

A great *savant*, Professor Fichow, made a very interesting and a very accurate remark, which applies here. He said that "nothing which comes through your eyes into your head ever goes out." And so say I. The impressions which we obtain by the sense of sight affect the brain and change our views in the most favorable manner. This was the meaning; and the man who has traveled a great deal will have his intellectual faculties greatly improved. We observed in Austria, as well as in other parts of Europe, another striking effect of these exhibitions. They improve in a remarkable way the public taste. The taste in former times in Austria was a bad one. The people had not seen examples of tasteful and beautiful productions. They had, therefore, no artistic judgment. They had no museums and schools for applying fine arts to industry, for improving and correcting their taste, and for thus giving them the right ideas of the beautiful. The consequence was that in their buildings, furniture, and other things of common life no taste was shown. But now, within a few years, and especially since the Universal Exposition and the establishment of museums and schools, there has been a remarkable improvement in this respect. The same may be said of England. Every one who visited England on the occasion of the London Exhibition in 1851 will remember that, although the English manufactured articles were very cheap, useful, and of the best quality, yet the taste displayed therein was awful. And now the English have, as a consequence of that exhibition, immensely improved in their taste; and in the Vienna Exhibition of 1873 we saw new evidence of this fact. Allow me to say that, as a sincere friend should speak the truth; and that as a sincere friend of America, who has the greatest sympathy for its people, in whose country I have learned since my short stay of six months a great deal, and where I hope to learn much more, it is my duty to say to them, in all truth and candor, that their public taste is in the same awful condition as was the public taste in England before their great exhibition of 1851.

I am sure that the public taste in America can be improved to as great a degree within as short a time after the exposition of 1876 as that of England was improved after the London Exhibition of 1851. I attach, therefore, immense importance to the cultivation of the fine arts as the means of refining the feelings of every man, and thereby improving the public taste. And I think this most desirable result will be attained among other valuable ones by the approaching International Exposition in Philadelphia in 1876. (New England Journal of Education, July 10, 1875.)

(*c.*) PRACTICAL SUGGESTIONS RESPECTING THE PREPARATION OF MATERIAL.

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SCHOLARS' WORK.

This is an extremely important division of the educational exhibition, though, with the exception of drawing, it is not showy in its character.

It is not any easy task to arrange a satisfactory scheme, nor will it be easy to carry out the best arranged plan. Much must be left to the taste, judgment, invention, and fidelity of teachers. Although the results of instruction belong to mind, yet they are in a great degree capable of ocular representation, and all written examinations are based upon that presumption.

And upon a little reflection it will be perceived that the scope of this division is very large. It comprises every exercise and performance that is susceptible of a graphic representation — all the work of the pen and pencil, and, in addition, mechanical constructions and productions, modelings and carvings, whether imitations or original designs. It is essential that each exhibit should be just what it purports to be, and each collection of papers bound up together, or in any way arranged in a set, and each separate individual paper or production should carry on its face a distinct indication of the facts as to its execution necessary to judge of its merits—such as the grade or kind of institution or school, the class in the institution or school, first draught or copy, time allowed, age and sex of pupils doing the work, selected specimens or work of entire class, general examination or exercise in review, or a regular lesson with usual time of preparation, date of performance, copy or original design, in drawing from flat or round, whether done with reference to the exhibition or taken from ordinary routine work the county or State, with the town or city. It is obvious that productions without the indication of the essential facts as to their execution have little or no value for purposes of comparison, and therefore for the purposes of an instructive exhibition.

It is hardly necessary to attempt an exhaustive enumeration in detail of all descriptions of scholars' work which might be useful for exhibition. The limits of this programme will permit only the most essential suggestions and directions.

KINDERGÄRTEN WORK AND THE WORK OF PUPILS IN KINDERGÄRTEN TRAINING-SCHOOLS.

As it is desirable to encourage female handiwork in school, it is hoped that specimens of both plain and ornamental will be contributed. The smaller articles may be conveniently arranged for exhibition in large portfolios with card-board leaves; larger ones may be placed in vertical or horizontal show cases. If girls have learned in such school to cut and make their own dresses, samples should be sent.

Primary school slates, with printing, writing, Arabic and Roman figures, drawing and musical notes, done by classes of pupils, put up like drawers in a rack made for the purpose, twelve in a rack.

Writing books completed, attached together in volumes, of all grades. *Specimens* of writing should be written on paper of the size and shape of an ordinary writing-book leaf, unruled, ruled by hand, or machine ruled to the purpose, and neatly bound, the work of a school or class in a volume; individual specimens on larger paper of ornamental penmanship, for portfolios or framed for wall exhibition.

Drawing books, completed, attached in volumes; drawings bound in volumes and in portfolios, also specimens for wall exhibition; portfolio of two or three specimens, different kinds, free-hand, geometrical, &c., of each grade of a public school course, from the lowest primary class to the highest in the secondary or high school.

The drawing from industrial classes, schools of design, technological schools of different kinds, and schools of fine arts will doubtless constitute one of the most attractive and useful features of the exhibition. Contributions illustrating the courses in drawing and the results attained in each institution of the above classes are desired. They should be loose in portfolios, from which selections may be made for wall display on an extensive scale.

Models of bridges and other engineering projects and designs; models of building construction; specimens of carving and modeling in clay; samples of the productions of machine shops connected with technical schools; apparatus of any description made by students.

Map drawing from memory and from copy, with and without printed skeleton paper, of the size of the leaf of the ordinary quarto school atlas.

Written exercises, comprising English compositions, themes and translations in different languages; exercises in the various elementary branches; exercises in the higher studies, literary, scientific, æsthetic, professional, and technological; specimens of graduating dissertations, orations, and theses.

Written exercises should, as a rule, especially those of an elementary character, be of the regular letter sheet size, with margin for binding, unruled, ruled by hand, or machine ruled. They should be neatly and plainly bound in muslin in volumes of moderate thickness.

It is suggested that exercises prepared especially for the exhibition be commenced simultaneously on the 1st of February, 1876. (New England Journal of Education, July 10, 1875.)

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JOHN EATON,
J. D. PHILBRICK,
ALONZO ABERNETHY,
J. P. WICKERSHAM.
Committee.

III.—PRELIMINARY WORDS TO THE REPORT BY MR. STETSON.

The accompanying report upon the exhibition of elementary drawing at the Centennial was prepared by the late Mr. Charles B. Stetson, the well-known writer upon the subject of technical education, at the request of the jury on education.* Mr. Stetson was at first desired to make a report upon the whole subject of "technical education," which, from want of time to devote to it, he was unable to undertake, but with the approval of the "jury" confined his investigations to the subject of elementary drawing, as being "the most essential feature of technical education, whether for men or women." The jury desired an exhaustive and impartial report upon the foreign and native exhibits.

In connection with this, Mr. Stetson prepared a preliminary treatise upon the subject of drawing, as illustrated by the Exhibition. This portion of his report, tracing, as it does, the various relations of drawing to applied industry, is of permanent value.

The plan of the publication of official reports finally adopted by the Centennial authorities is far more limited than was anticipated when this and other reports were prepared.

That part of the report by Mr. Stetson which states the actual condition of the several exhibits of elementary drawing shown by the several communities and institutions, critcising or commending the methods of instruction adopted, appeared in the official report published by the Centennial authorities.

The publication of this entire report, as prepared by Mr. Stetson, has been urged by the individual members of the jury, and by other leading educators. Among these are President Andrew D. White, of Cornell; Dr. J. W. Hoyt, secretary of the board of judges; President

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* The following was the letter of authorization given to Mr. Stetson to facilitate the preparation of his report:

[International Exhibition, 1876. United States Centennial Commission. Bureau of Awards, Group XXVIII.]

PHILADELPHIA, *July* 31, 1876.

SIR: Permit me to introduce Charles B. Stetson, Esq., who has been requested by the judges on "Education and Science" to make special investigation for them in matters pertaining to technical instruction.

Any aid which you can give him in your exhibit will greatly serve the object of Group XXVIII, and will be of general use.

Mr. Stetson is well known in the United States as the author of a very thoughtful work on technical education.

Very respectfully, yours,

J. M. GREGORY,
Chairman.

To any gentleman in charge of any exhibit coming under the inspection of Group XXVIII.

J. M. Gregory, of the Illinois Industrial University, and Rev. Dr. Miner, chairman of the Massachusetts State board of education.*

If those paragraphs of his report in which Mr. Stetson criticises and compares the drawing exhibits made by the several cities, towns, and institutions in the United States were not elsewhere published, the advisability of its insertion here might be questioned; since direct criticism of systems or institutions has not been customary in the publications of this Bureau.

The fact, however, that this portion of Mr. Stetson's report is elsewhere officially published, effectually disposes of any objection to its insertion here; though, were it otherwise, the plea might well be urged that the very object of sending any exhibit to the Centennial was to invite criticism, and to furnish opportunity for comparison; so that unless intelligent criticism and comparison were made in such a way as to be known to each and all of the exhibitors, the sole value educationally, of the efforts made in preparing and forwarding the exhibits, would be lost to those who had thus shown that they desired to obtain just such returns for their labor.

One great purpose of such world's fairs is to afford nations, institutions, and individuals, an opportunity to realize their own deficiencies and to see the excellencies of others; and educators certainly will endeavor to be first to take cognizance of, and correct, any deficiencies so discovered in their systems and methods.

If industrial drawing is to be added to the required studies in public schools it is of the greatest importance that its uses, its limitations, and the best methods of instruction should be clearly and fully comprehended. After a careful perusal of the report by Mr. Stetson (than whom the writer knew no one more competent to prepare such a report), the conclusion was reached that no better means for forming an intelligent judgment upon these questions was available, than this entire report exactly as prepared, and an earnest request was made to Mr. Stetson, by the author and compiler of this special report on art education, for permission to insert his report upon "Elementary Drawing at the Centennial," in the appendix to this publication of the Bureau of Education.

As the criticism upon the work shown by the various schools at the Centennial was already published, it seemed most desirable that the principles laid down by Mr. Stetson in the introductory part of his report, and in accordance with which the separate exhibits were judged, should be made known to all interested; this could only be done by the publication of the whole report, which contains the citations of authorities from various writers for the several positions assumed as fundamental, and, also, all the illustrations of these principles taken from examples found in the Exhibition itself, all of which citations and examples were, of necessity, omitted in the abstract of his report as published by the Centennial authorities.

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*The Fortieth Annual Report of the Board of Education of the State of Massachusetts, published January, 1877, contains the following reference to this report. * * * "For an analysis of the enterprise as a whole" (that is of the drawing exhibit at the Centennial made by the State), "and a statement of the results which our honored Commonwealth has thereby achieved, we refer to the report of the committee having the exhibit in charge, and also to that drawn up by Mr. C. B. Stetson on behalf of the judges in the department of education and science at the Centennial Exhibition, and which, when published, we should be glad to see widely circulated in our State.

POPULAR INSTRUCTION IN ELEMENTARY DRAWING.

[A report based on the International Exhibition at Philadelphia, by Charles B. Stetson.*]

The International Exhibition illustrates many things, but more than any other one thing it illustrates the manifold applications of drawing. Natural products excepted, nearly all else shown might, with much propriety, be called an exhibition of drawing as applied in art and industry. The Exhibition buildings themselves, the various machines, the locomotives, the ship, bridge, aqueduct and other models; the carriages, guns, pumps, were all made from drawings, and could scarcely have been well made without them. To drawing is due much of the beauty and worth of the pottery, bronzes, carvings, glassware, jewelry, shoes, furniture, cutlery. The varied products of the loom and of embroidery, cloths, carpets, laces, shawls, tapestries, owe to drawing a great part of all that renders them valuable. There is exhibited no fine painting, no fine piece of statuary from the hand of an artist, who has not been well trained in drawing.

Architecture, sculpture, and painting have been long and very properly denominated "the arts of drawing;" † and with one or another of these arts nearly every handicraft might be rightly grouped. Such classification is justified by the fact that form, which it is the business of drawing to represent, is one of the most essential characteristics of every object, whether we consider its body or its decoration.

INSTRUCTION IN DRAWING PROMOTED BY INTERNATIONAL EXHIBITIONS.

Hence it is not surprising that international exhibitions of industry have contributed so much towards the development of instruction in drawing the world over. The first of these exhibitions, that at London in 1851, gave to such development a sudden, powerful, and wide-reaching impulse. It is true that at London in 1851 there was no special exhibit showing the character of education in any part of the world. Nevertheless, this international tournament did teach the world a great lesson in education. Especially did it do this by making known the merits and defects of the instruction given by different countries in drawing, as these merits and defects were exemplified by the industrial and art products that were exhibited.

The first attempt in the way of an international exhibit of education was made at Paris in 1855. Since then education has formed a prominent feature of all international exhibitions. Especially has drawing been made conspicuous because of its intimate connection with nearly all the industrial and artistic products displayed.

SPECIAL INSTRUCTION IN DRAWING.

Special drawing schools, some aiming to produce artists, others art workmen, have long existed in Europe. For example, in 1767 letters patent were issued establishing the "Free Royal School of Drawing" at Paris, the object being, as stated in the letters patent, to promote the manufactures and commerce of France.‡ The course of instruction adopted at the outset for this school was much the same, in its main features, as that which is to-day considered to be best for schools designed, as that was, to produce art workmen. Abundant experience has since demonstrated the great value of this and of similar schools in different parts of Europe. Under the stimulus of international exhibitions of industry these schools have rapidly multiplied of late, while their courses of study have become more comprehensive and thorough. Thus England alone has to-day some one hundred and thirty of these schools—their number steadily increasing, with about twenty-five thousand students. The same proportion would give the United States near two hundred. But who can name even one?

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* **My Dear Colonel**: If you publish it will be necessary, will it not, to add a note setting forth how the report came to be written and why you conclude to publish?
STETSON.

The preceding statements were written in accordance with the above request.
I. E. C.

† Mr. Charles Blanc, formerly director of the Beaux-Arts, Paris, says in his "Grammaire des Arts du Dessin": "Of the three great arts (achitecture, sculpture, and painting) which form the subject of this book, there is only one to which color is necessary; but drawing is so essential to each of these three arts that we very properly call them the arts of drawing."

‡ The following is an extract from the King's letters patent establishing the school: "The perfection to which, through our aid and protection, the different guilds of arts and manufactures have been elevated in our kingdom, having convinced us more and more that the industry of artists and of these different guilds forms a branch of commerce which is the most flourishing and the most advantageous to our subjects, we believe we ought to give yet more attention to whatever can help to increase their knowledge and their talents."

UNIVERSAL INSTRUCTION IN DRAWING.

But European Governments have not stopped with these special schools, nor with their night drawing classes, Sunday drawing schools, industrial art museums, all of which have been found to contribute so much to national prosperity. While beginning at the top and working downwards they have at last reached the conviction that they should begin at the bottom; that all should be taught the universal elements of drawing and art. So, to-day one finds that drawing is a compulsory study in nearly all the people's schools of Europe, and occupies not a minor but a conspicuous place in the curriculum. The indications are that in a few years every child in Europe that learns to read will learn to draw, doing either with equal facility.

SPECIFIC REASONS FOR ATTACHING IMPORTANCE TO DRAWING.

One is not obliged to look far to find ample reasons to justify the importance which is thus attached to both popular and professional instruction in drawing.

1. *Expedites construction.*—Drawing expedites construction of every kind—of buildings, machinery, ships, locomotives, railroads, fortifications. Indeed, many most essential things could not be made at all without the assistance of drawing. For the greatest economy in construction there must be not only draughtsmen to make the original drawings, but there must also be workmen with, at least, sufficient knowledge of drawing to enable them to work from drawings without constant supervision. Hence, if regard be had simply for the advantage to be derived from practical application, large numbers need to be taught the elements of constructive drawing. Think of the hundreds of thousands of houses and other buildings, to say nothing of ships, locomotives, bridges, machinery that are to be constructed in the United States during the next thirty years, the cost of whose construction will be greatly reduced if drawing does not continue to remain, as it is now, an art unknown to the workmen.

2. *Develops taste.*—Drawing develops the taste for the beautiful. That the manufactured products of a country may excel in taste, there must be artistic designers. There must also be workmen with sufficient taste to execute what has been beautifully designed, for a bungler cannot do it.* Then back of designer and workman there must be a public taste sufficiently cultivated to appreciate what is really chaste and beautiful, and so provide a market for such products. It may be counted as a truism that in no country will the quality of its manufactures rise above the taste of its people. It may also be counted as a truism that no country can export its manufactures with any good degree of success, unless they excell in beauty of design and execution. They should also be original in design, as no country cares to purchase from another just what itself produces. It is not enough, therefore, to steal foreign patterns, nor to employ foreign designers, both of which things we are now doing. And so it becomes essential that all should be well trained, at least in the elements of artistic drawing, and that this common instruction should be supplemented by special instruction for the training of industrial designers and artistic workmen. It may here be observed that it does not necessarily take more time and labor to make an object beautiful than to make it homely; but as the beautiful object always commands the highest price the artistic workman is better rewarded than his clumsy competitor. To develop the popular taste is to confer a special blessing upon the working classes.

3. *An element of general culture.*—Drawing affords an admirable discipline of mind, eye, and hand, a discipline in large part not obtainable from anything else. Therefore, as a factor in the development of the human being, as an element of general culture, the study of drawing, like the study of language or of the mathematics, is of universal utility. It cannot be properly said of any one that he is symmetrically edu-

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* Richard Redgrave, late inspector-general for art, England, says in his "Manual of Design:" "Our greatest difficulty consists even less in the want of designers than of skilled art workmen to carry out designs. A design for cotton printing may be spoiled by the 'putter-on,' or for silk by him who prepares it for the loom. The sculptor may design a statuette, but there are few able to chase the bronze, to retouch the clay, or to unite the parts when they come forth from the mould."

cated if he has not been instructed in drawing. For six or eight centuries drawing formed a part of liberal education in Europe, and was taught jointly with Latin literature, mathematics, and philosophy. It was not until the thirteenth century, upon the rise of corporations, guilds, and apprenticeship, that a division in European education took place, and instruction in drawing and art was dropped from the liberal curriculum.* Then technical and artistic education was left to those who specially practiced the different industrial arts. But the world never stands still. More recent changes in the social condition, notably the greater demand for skilled artisans, and the decay of apprenticeship arising from the subdivision of labor in each industry, have led to the establishment of special schools for giving professional instruction in drawing and art, better instruction, in certain respects, because less dogmatic and more rational, than was possible under the old apprenticeship system, even in its best days. Now, too, the university curriculum begins to show signs of a change, as well in this country as in Europe, which promises to restore instruction in drawing and art to the place it once held as an element of liberal culture. There is, indeed, reason to hope that the day is not distant when the college graduate will no longer be as ignorant of art as is the unhoused savage. Classic art will take its place by the side of classic literature. Now, general culture, whether in language, mathematics, art, or natural science, should begin in the people's schools, sometimes called the people's universities, which they ought in truth to be.

4. *The basis of technical studies.*—Drawing holds the chief place in technical education for both men and women.† Hence those who enter the advanced technical schools with such knowledge of elementary drawing as the common schools should give to all find the time required for their technical studies greatly abridged. In Europe candidates for admission to the higher technical schools are obliged to pass an examination in elementary drawing. The same thing should be required in the United States, but is not at present feasible, because both public and private schools have hitherto neglected to give suitable instruction in drawing. It may be added that much the same knowledge of elementary drawing is required by him who, entering the college or university, is there to pursue the study of art as one of the elements of general culture. Art and the arts have the same beginnings. But many do not propose to themselves to seek advanced technical training, or the liberal culture of the university, until after the time has passed when the elements of drawing can be best and most profitably learned. Here we have, in addition to those already mentioned, another and no inconsiderable argument in favor of making drawing a compulsory study in the common schools.

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* In his sketch of the character of art instruction in France at different periods, M Louis Conrajod says: "In a word, art was probably taught orally and with the aid of books, like letters, the sciences, religion, jointly with them in the same school, by the same means. It made an indivisible part of that vast collection of human knowledge which the cloister had received from expiring antiquity as in a storehouse, and which it has transmitted so singularly increased to modern times. They had not yet thought to isolate anything. Division of instruction did not begin to manifest itself until the thirteenth century, with the establishment of corporations."

† In the summary of an inquiry on professional education, 1865, a French imperial commission say: "Among all the branches of instruction which in different degrees, from the highest to the lowest grade, can contribute to the technical education of either sex, drawing, in all its forms and applications, has been almost unanimously regarded as the one which it is most important to make common."

The president of the Massachusetts Institute of Technology, J. D. Runkle, says: "We are now obliged to teach the elements of drawing during the first year of the course, a work which should be done in the preparatory schools, and which we shall require for admission just as soon as instruction in drawing becomes sufficiently general in these schools. I am satisfied that a knowledge of forms, which is an important element in all industrial education, can only be learned by the study of drawing, which should be taught in all our public schools with competent teachers; the time required to lay the proper foundation for future special applications need not be disproportionate to that devoted to other studies."

The professor of civil engineering in Bowdoin College, George L. Vose (whose works are regarded as the best American authority on railway construction), says: "I have no hesitation in saying that such a course in free-hand and instrumental drawing as might be well and thoroughly taught in the common schools, without in the least consuming the time needed for other studies, would save a year in the department of drawing in any of our technical or engineering courses; and this is not simply a matter of opinion with me, but I know it from an actual comparison in my classes, for the past five years, of students who had received such a preliminary training with those who had not. I may say further that I regard the free-hand drill in common schools as more important than a drill in instrumental work, as the former trains both eye and hand, while the latter trains the hand only."

DRAWING A SUITABLE STUDY FOR ALL.

For the reasons enumerated drawing has come to be looked upon as a study whose elements should be taught to all, while for those who desire it advanced instruction should be provided for professional purposes and liberal culture. The means to be employed to this end are the people's schools, evening drawing classes for workmen, technical schools and schools of fine art, the university, lectures, books, museums, and exhibitions of art and industry. That the instruction imparted by these agencies may produce the beneficent results desired, it must, of course, be rational and equal to the end sought.

PREPARATION OF THIS REPORT.

As requested by the jury on education, I have carefully examined the Exhibition to ascertain what it teaches about drawing. I have studied the work done by pupils, school material, courses of study, and other official documents, and the industrial and art products displayed. From these I have endeavored to learn what, as settled by experience and reason, should be taught and how taught, especially in the earlier stages before the learner comes to the professional application of drawing in art or industry.

THE DRAWING EXHIBITS.

Foreign countries do not exhibit much work done by pupils, and so it is impossible to determine the comparative merit of the results generally attained in the schools. However, the limited amount of work shown by England, France, The Netherlands, Russia, Sweden, and other European countries, when taken in connection with the exhibits of material used in the schools, and with the displays of educational publishing houses, is quite sufficient to give a clear idea of the leading features which characterize drawing instruction in Europe. Then the industrial and art products exhibited furnish a commentary upon the schools, from which one can hardly fail to derive educational enlightenment.

Different parts of the United States, notably Massachusetts, Ohio, and Indiana, make considerable exhibits of actual work done by pupils in drawing. Very few cities and schools, however, present courses of study sufficiently broad and systematic to show that the subject has been fully grasped and the resolution formed to do thorough work. This results from the fact that drawing has so recently received among us thoughtful and earnest consideration. So far as the industrial and art products exhibited by the United States serve to illustrate the effects of good instruction in drawing, they illustrate, in the main, the effects of good foreign instruction; for it is in Europe that most of our artists and designers and many of our mechanical draughtsmen have been trained.

LACK OF UNIFORMITY IN AMERICAN INSTRUCTION.

One may learn from the Exhibition that both in Europe and in the United States instruction in drawing is not everywhere and in all respects equally commendable. Like the industrial and art products, the instruction in drawing shows atrocities from both sides of the Atlantic. But it must be said that in this country, as compared with Europe, drawing instruction shows less conformity to a recognized standard and a vastly greater number of atrocious things. So many vagaries are manifested in the treatment of no other study. Arithmetic, geography, grammar, for example, are taught, so far as relates to their main features, in much the same way everywhere. Equally good results are not everywhere obtained, it is true, owing to difference in the quality of teachers, to difference in length of school, and to other causes. Yet the instruction covers about the same ground everywhere, and conforms to the same general methods. Not so with drawing, of whose real character and scope most of our teachers and school officials know little or nothing. Thus, ignorant of drawing themselves, many of them naturally fall into one of two errors. They conclude that the subject is not understood by anybody, and, therefore, that right instruction is yet to be settled by experiment; or they accept the word of the first person who claims to know all about the matter, and follow his lead. Hence, such countenance is given to novelty and pretence in the case of drawing as would not be tolerated for a moment in the case of arithmetic or geography. Hence the variety degenerating so often to mere vagary, which is seen in the pupils' drawings from American schools.

UNIFORMITY IN EUROPEAN INSTRUCTION.

On the other hand, drawing instruction throughout Europe shows, upon the whole, remarkable conformity to a single rational standard.*

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* Professor Langl says in his official report to the Austrian Government on the art education display at the Vienna Exhibition, 1873: "The world, so far as it is concerned in drawing, is probably unanimous in the conviction that instruction, in its first stages, must begin with geometrical forms, and that ornament must be practiced,

This conformity can be easily accounted for. Drawing has been taught there for centuries, and so is not a novelty as with us; the results of good, bad, indifferent instruction are known. Of later years, too, the various governments have made extraordinary efforts to promote such instruction in drawing as would approve itself by its practical fruits. And, meanwhile, drawing has been subjected to severe pedagogical treatment, both in the light of experience and in the light of sound philosophical principles. The conclusions thus reached could but commend themselves to common sense everywhere, and lead to uniformity in act. France, in particular, has contributed experience, since drawing has scarcely ceased to be zealously cultivated upon her soil during the last thousand years; but Germany and England have contributed most towards the philosophy of æsthetics. M. Charles Blanc, formerly director of the Beaux-Arts, Paris, says in his Grammaire des Arts du Dessin: "Strange thing! France, though she counts at this moment in her bosom the most skillful artists of the world, is, in that which relates to the philosophy of art, one of the most backward nations of Europe; she, so renowned hitherto for the fineness of her judgment and for the sovereignty of her taste." France, acknowledging the sovereignty of the æsthetic principles more fully elucidated by her neighbors than by herself, is now shaping her practice to conform to these principles, though at the sacrifice of certain things which have the sanction of tradition and of distinguished patronage. She accepts the fact that no instruction can be sound in practice which is not first sound in theory, however novel and striking the results. On the other hand, those neighbors of hers, whose theory has hitherto outrun their practice, are availing themselves of the lessons taught by her experience. And countries like Russia, that have excelled in neither theory nor practice, are adopting both from their rivals. Hence the remarkable harmony, already referred to, which pervades the instruction in drawing throughout Europe, especially where the instruction is under Government control and not left to the whims of uninformed, capricious teachers.

THE GENERAL PRINCIPLES WHICH UNDERLIE ALL GOOD INSTRUCTION IN DRAWING

The general principles having the approval of the safest authorities and widest experience, to which principles all instruction in elementary drawing should conform, are, unless I greatly misapprehend, as I will now state them:

1. *Should conform to general pedagogical principles.*—Drawing should be treated as all other studies are treated.† The instruction should conform to those pedagogical principles which are recognized as universally sound. It should proceed from the simple to the complex, from the regular to the irregular. The succession of the steps should be according to a natural and logically systematic order. In a word, all should be rational, nothing dogmatic, and the superior emphasis should ever be laid upon knowledge, not upon mere dexterity in the handling of the pencil.‡ Those teachers who treat drawing thus, claiming for it no special favors, always obtain the best results.

2. *Geometry as the basis.*—Geometry should be taken as the foundation of all instruc-

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to a certain degree, before figure drawing can be taken up. Differences of opinion have reference to the method only; *i. e.*, how shall the several parts be taught? What shall be their proportion, and what models shall be employed?"

M. Buisson, a French delegate to Vienna, also French educational commissioner to Philadelphia, notes in his official report on elementary instruction in drawing at Vienna the same harmony of views. He says: "Without enumerating the countries and the establishments where we could find altogether the same tendencies in drawing instruction, let us pass from the countries of the Germanic tongue to those of the French, and we shall observe between them a harmony of pedagogical views the more striking as it bursts across the greatest diversities in habits, in processes, in æsthetic education."

† Says Professor Langl, in his official report to the Austrian Government on the Vienna Exhibition, speaking of the Austrian schools: "It was noticeable that those schools took the lead, and shone as models before all others which have the advantage of superior teachers, who perceive drawing to be an integral part of general education."

‡ John Burnet, a leading authority among artists, says, in his treatise on painting: "Drawing much improves as little as reading much, unless we contemplate and understand. Those who have acquired a readiness of hand without correctness of study have but the shadow instead of the substance."

Speaking of the same matter, Sir Joshua Reynolds says: "After much time spent in these frivolous pursuits the difficulty will be to retreat, but it will be then too late, and there is scarce an instance of return to scrupulous labor after the mind has been debauched and deceived by this fallacy."

tion in drawing, whether for artistic or industrial purposes.* By this it is not meant that the learner must be trained in demonstration after the manner of Euclid. One may make the drawings for a trefoil Gothic window without first learning, by demonstration, the mathematical properties of the equilateral triangle employed in the preparation of the drawings for the window. Attention should first be given to the forms of geometry; next to its facts and their applications; lastly, its reasons, when the learner is old enough to deal with them, should receive consideration. The learner is not by any means to be kept long busied with geometry in the abstract, but rather he is to derive from it his first exercises in drawing, because none others so simple are elsewhere to be had; and he is to be taught how to use it as a test of the accuracy of his work in all kinds of drawing. That is, geometry must be treated as an instrument, not as an end. That all instruction in drawing should take geometry, as indicated, for its beginning and basis, may be regarded as settled beyond any reasonable question. Any other beginning is bad, and a bad beginning in drawing is, perhaps, worse than a bad beginning in any other study.

3. *Drawing should begin with two dimensions.*—But there is plane geometry with its two dimensions, and solid geometry with its three demensions. With which begin? In Euclid the former is treated before the latter, because the former is the simpler and logically leads to the latter. The same course should be followed in drawing, and for similar reasons, whatever the ultimate object in view. When only two dimensions are represented all the difficulties of perspective, of light and shade, of orthographic delineation are excluded, because such difficulties pertain alone to the representation of solidity; nor is the imagination called upon to "realize form in space." It is especially needful to lay stress upon drawing two dimensions, if the ultimate object is industrial, since industrial design cannot get on without it, nor decorative art, nor any kind of building construction. If the ultimate object is purely artistic, less attention should be paid to the drawing of two dimensions only; but it must not be treated as a matter of little consequence even then.

4. *Pictorial representation of the three dimensions.*—When the learner comes to the pictorial representation of the forms of solid geometry, he should be confined at first to the representation of the literal form in true prospective outline, and should take the circular solids before the plane sided, since the perspective difficulties of the former are less than those of the latter. After the literal form has been mastered light and shade can be properly undertaken, and not before. What is here said refers especially to drawing from the solid itself, which is to be carefully distinguished from the pictorial representation of solidity by the aid of linear perspective, which is chiefly employed by architects and other draughtsmen to delineate objects not already existing, but to be made; and sometimes by painters, as when they desire to put architectral effects into their pictures, especially if the pictures are compositions. Since linear or instrumentral perspective really concerns itself only about straight lines, he who would learn to represent solidity by this means must not only begin with plane sided figures, but must employ them as an aid in representing circular figures; but to proceed thus when one draws with the free hand solids that are actually before the eyes is to make a serious blunder. The blunder, however, is often made, because a clear distinction is not kept between the two modes of representing solidity with pictorial effects.

5. *Orthographic representation of the three dimensions*—For the purposes of mechanical drawing the geometrical solids must be orthographically represented, not only as wholes; they must be represented in sections, as revolved, and as penetrating one another; and the development of their surfaces must be delineated. All this makes a large demand upon the imagination. Yet, when suitable means are employed, children 10 or 12 years of age are readily taught this mode of representing the geometrical solids. There are needed, besides painted copies, the actual solids, in sections, etc., to be drawn, and tangible illustrations of the planes of delineation. By the aid of these the imagination soon learns to do its work of "realizing form in space." As a mental discipline for the young this kind of drawing must be regarded as exceedingly valuable, while a thorough course in it is indispensable for one desirous of becoming a creditable mechanical draughtsman. In the case of those workmen, however, who attend evening drawing schools, less attention should be paid to it, since they have but limited time and are usually anxious to learn something each can at once put to practical use in his particular business.

6. *Drawing conventional forms.*—After geometrical forms logically follows the drawing of conventional ornament and artificial objects. These bearing a close general

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* At the artistic congress held at Brussels in 1868, M. Hendricks, describing his method of teaching drawing, a method so popular in Europe, said: "According to my idea, all elementary drawing should take, as its foundation, geometry, and make the elements of this science subservient to the analysis of artistic forms in such a manner that they are not an inanimate instrument only, but, on the contrary, a means by which the pupil can himself control and appreciate his work. Every method should be rational, positive, and not leave room for doubt in the pupil's mind."

resemblance to geometrical forms, plane and solid stand next to them in regularity and simplicity of outline. But how should they be treated? Ornament is either flat or in relief. If it is flat, also conventional, and treated without pictorial effects, then it involves the drawing of but two dimensions, and logically follows the drawing of plane geometrical forms. If it is in relief, therefore possessing solidity, then it can be perspectively drawn in light and shade. The artificial objects mentioned can, of course, be treated in the same way as relief ornament. This is a logical step forward in pictorial representation of objects actually before the eyes.

But it is proper here to observe that pictorial drawing is, comparatively, seldom employed for industrial purposes, hardly ever outside of strictly imitative decoration. Industry usually calls for representations of objects *to be made, not of objects already existing.* Therefore the drawing, if anything more than mere suggestive sketches, must be rigidly precise, and pictorial drawings are never that. To obtain this precision the main reliance must be placed upon drawings that represent at a time only two dimensions of a solid. Add half tint for the representation of relief. Hence it comes that nearly all the principles of industrial design, as employed in designing the forms of objects or their decoration, must be taught in connection with the drawing of two dimensions. Very justly is great emphasis laid upon this kind of drawing for the learning of which flat copies are so essential.

7. *Drawing from nature.*—After the drawing, 1, of geometrical, 2, of conventional forms, logically comes the drawing of natural objects, whose regular general forms and symmetrical general arrangement of parts are obscured by numberless irregularities of detail. If the instruction has taken the course here indicated, the learner finds himself prepared, when he comes to them, to grapple with the peculiar difficulties incident to drawing from nature. Due practice with simple fundamental forms has given him dexterity in handling the pencil and crayon; has given him quickness and certainty of eye in judging of proportion; has given him knowledge of breadth, of repose, of beauty of line, and of the ordinary effects of light and shade; has given him an understanding of the laws of organic growth and arrangement, especially as illustrated in the vegetable world, from which so many of the principles of decorative art are derived; and has also given the invaluable mental habit of looking at objects in the mass* instead of the vicious habit of concentrating the attention upon details, which one is apt to acquire when he is put to drawing from natural objects at the outset, or from printed pictorial representations of such objects.

Indeed, he who has been first duly trained in the severe school of geometrical and conventional forms makes wonderful progress when he comes to deal with nature, in comparison with him who takes nature for his starting point.† He finds that the familiar forms of geometry and the familiar symmetrical features of conventional ornament pervade all nature, and that they, in spite of the irregular details which first strike the attention, constitute the solid foundation upon which nature builds. Recognition of these features gives him at once a breadth of view, in rendering nature, which keeps him from wasting time on microscopic and unimportant particulars. It also gives him the freedom of sure law, which is the only freedom of any worth, in the rendering of all irregular characteristics. And so it comes that *one cannot best learn to represent nature by beginning with nature and always drawing from nature.* Indeed, with exclusive practice of this kind one cannot become a master in the rendering of natural forms.

They who think otherwise forget that there is a great deal to nature which does not appear on the surface, and which can be best learned independently of the surface.‡

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* Says Prof. William R. Ware: "This attitude of mind and the method of work to which it gives shape, and which in turn tends to render it habitual, is obviously conducive to the development of some of the best qualities of the draughtsman. To learn to see things as they really are, not in their accidents and their details, but in their essentials, and even in temporary and accidental effects to seize the essential element of the effect, is just what the artist of every kind most needs to learn. It is this discriminating perception that distinguishes the real artist, not a mechanical facility of hand or a mechanical accuracy of the eye."

† Burnet, Bachelier, Dürer, Da Vinci, and others distinguished in art have expressed this view in their writings. So have those who, like Hegel, have dealt with art as a philosophical question. The conclusions of pedagogics accord with this view. There appears to be but one mind about the matter among persons qualified to judge.

‡ Mr. Redgrave, late inspector-general for art instruction in England, says in his Manual of Design, when speaking of naturalistic and conventional ornaments: "From what has been said, it must be evident that the law of symmetrical arrangement is not only in accordance with a *deeper insight* into nature's working, but, moreover, lends itself to the absolute necessities of many manufactures, especially in this age of machinery, and proves the best means for the display of form and color in all. The naturalistic view, on the other hand, is not only difficult of execution in many manufactures and fabrics, but is a mere *surface* view of nature, only concerning itself with what is open to every one, and neglecting those hidden truths which lie at the root of the whole subject."

They make much the same mistake as do those who imagine that one is learning industrial drawing when engaged in the pictorial delineation of wheels, carts, barrels, steam-boilers, tables, and other industrial objects, no thought whatever being given to the principles and methods which are *actually* employed in constructive drawing and industrial design. Surface is often mistaken for substance.

8. *The human figure.*—The drawing of the figure must be regarded as the culmination of all drawing, since it introduces the most subtle lines and proportions, but especially spirit. If the learner should not begin with vegetable forms, still less should he begin by drawing the figure. Especially should he refrain from such a beginning if he has an industrial object in view, yet the drawing of the figure in a rational way should find a place in popular elementary instruction, both because of the general culture it affords, and because the figure is largely employed for decorative purposes in a great variety of industries. The instruction should, of course, proceed by logical steps from proportion, altitude, skeleton, and massing of flesh, to the skeleton fully clothed, with just accentuation of parts, beauty of line, and expression of spirit. It should proceed from the inner to the outer, taking one thing at a time, the general before the particular, the simple before the complex and subtle, and the fixed, like the flat copy and cast, before variable life.

In no other variety of drawing does success depend more upon sound pedagogical treatment.

TWO METHODS OF DRAWING THE HUMAN FIGURE DESCRIBED.

There are two modes of treating the figure in drawing. The one mode gives all the effects of chiaro-oscuro, that is, perspective (not a good term), light and shade, foreground and background. This is the pictorial and usual mode of treating the human figure. The other mode gives only the leading lines; there is not only no light and shade, but no allowance for perspective, no foreground, no background. A group of figures is treated as though each was equally distant from the spectator. The first mode is, even for one who is an expert, slow and laborious; to apply it successfully in manufactures is exceedingly difficult. The second mode requires but little time for drawing the figures, though one must be skillful if he would draw them with success. This mode of treating the figure is well adapted to a variety of manufactures.

FRENCH GOBELIN TAPESTRY.

To illustrate the two modes. In the art exhibit of France, Memorial Hall, is a Gobelin tapestry which represents Penelope weaving. As the story is told by Homer, a large number of suitors sought Penelope in marriage, but she, faithful to her husband, king Ulysses, who had been gone many years to the Trojan war, put them off with the assurance that she would marry one of them as soon as she had finished the web she was weaving. But what she wove by day she secretly unraveled at night; and thus the suitors who had meantime taken possession of the palace of Ulysses, found the act of choosing postponed from day to day. The tapestry not only gives a beautiful picture, with color added to the drawing, of Penelope at the loom, but recalls the whole of this charming story of ancient conjugal fidelity. This is a sample of the first method of treating the figure.

DANISH TERRA COTTA VASES.

A sample of the second method is seen in the pottery exhibit from Denmark, Main Building—in the exact reproductions of ancient Greek and Etruscan terra cotta work there shown. Take one of the vases on which is represented the recognition of Ulysses by his old nurse Euryclea. After an absence of twenty years Ulysses had returned. Finding the suitors in possession of his palace, he assumes the garb of a beggar, and thus disguised enters. When the suitors have retired for the night, the hospitable Penelope gives orders for the entertainment of the beggar. She directs the old nurse Euryclea to wash his feet, after the custom of the times. Penelope is represented as half-reclining on her ivory chair, while Ulysses sits erect on another chair, and Euryclea is kneeling upon the floor in front of him washing his feet. The exact moment represented by the drawing is the one in which Euryclea, having discovered upon the knee of Ulysses a well-remembered scar, is looking up into his face in joyful surprise at the recognition of her long awaited master, the husband of the faithful Penelope. The few beautiful lines, the graceful attitudes, the speaking faces tell the whole story. Little wonder that this pottery finds such wide and ready market.

The decoration of the vase referred to includes much more than has been described, yet it all represents only a few hours of skilled artistic labor, while the tapestry described represents months of such labor.

PROBABLE INFLUENCE ON AMERICAN MANUFACTURES OF CORRECT FIGURE DRAWING

Instead of the present few and clumsy attempts at using the figure for decorating manufactures in this country, where figure drawing is now so sadly neglected, how different it might be were such drawing properly attended to! Various industries would be revolutionized, or, rather, what is equivalent to new industries would be formed. We might have pottery, for example, decorated with scenes from Longfellow's Hiawatha or Evangeline, from the colonial, revolutionary, and other periods of our history, and so cheaply done in the manner just described that all who have a spark of poetry in their souls, or any love of country, could afford to purchase the products. New, delightful, and profitable employment would thus be furnished for large numbers.*

9. *Industrial design.*—While one is learning to draw he should be instructed, almost from the outset, in the principles and rules of industrial design Progress in drawing is thus accelerated, not retarded. The drawing is also rendered not only more delightful, but much more useful for every one. Design has to do both with the forms of objects and with their decoration, true ornament always being subordinate to the object to which it is applied. The principles of good industrial design are few, and, in the main, quite simple; they can be readily understood by the pupils to be found in American grammar schools. It is, of course, easier to understand and appreciate these principles, when seen applied, than to make successful original applications of them, just as it is much easier to appreciate and enjoy the productions of Longfellow than to write like him. With a single year of proper instruction in the elements of design as set forth, for example, in Mr. Redgrave's little "Manual of Design," † a class of grammar-school pupils would be able to criticize with a good degree of intelligence two-thirds of the manufactured products in the exhibition. It would no longer simply be "this is splendid," or "that is horrid;" they would have a definite reason for their likes or dislikes. Early and systematic instruction in the principles and rules of industrial design should, indeed, never be neglected.

10. *Industrial design should conform to use and material.*—The principles of design require that the form of any useful object should be first determined by the requirements of the use to which it is to be put. If this use permits of a choice between modified forms, then the design should consult the requirements of beauty and good taste, and select that form which will be, by reason of its proportions, distribution of parts, lines, et cetera, the more pleasing. No two houses, two carriages, two canes, two coffee urns need be of just the same shape; but the houses should be convenient, the carriages strong, the canes should not hurt the hand, the urns should be easily cleaned.

RELATIVE IMPORTANCE OF ARTICLES AN ESSENTIAL CONSIDERATION.

The use to which an object is to be put often involves its relation to other objects, as in the case of a piece of furniture; if the relation is subordinate, the design should, by its modesty, enforce that subordination. And so, as each one is apt to magnify the importance of his own business, it is not safe to leave the carpeting of a room to the dealer, the selection of the furniture to the manufacturer, and the character of the ornament to the decorator. Each will be inclined to make the most of his own work, and there will be nothing subordinate. Perhaps the real feature of the room is to be, not either of the things mentioned, but pictures and bronzes, requiring that all else should be subdued and modest.

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* In 1854 a school of art was established at Lambeth, England. Its object was the improvement of the local industries, especially by giving them an artistic character. For many years the Doultons had carried on the pottery business at Lambeth, making coarse stone drain-pipes, jugs, blacking bottles, etc. They contributed towards the support of the art school, but did not avail themselves of its instruction until 1870, when they began the manufacture of that decorated pottery which has already become so widely known, and of which they made so large and fine a display at Philadelphia. For the decoration of this new stoneware and faience they employ only persons who have been trained in the local art school. Among the number thus employed are about fifty young women. The decoration is done entirely by the free hand, and so no two pieces, no two cups, plates, bottles, vases, are decorated just alike. The decoration is mainly of four kinds: The objects "may be incrusted with raised ornaments; they may be indented by bold lines and patterns; they may have scroll-work or figures or landscapes engraved upon them, and they may be painted in various colors." Though there is no resort to machinery for the purpose of rapidly multiplying copies, yet it is found possible by the help of the local art school to secure the decoration at such moderate cost that the beautiful objects are brought within the reach of persons of moderate means. Nevertheless, the decorators are much better paid than unskilled laborers. The demand for the "Doulton ware" is greatly in advance of production. Queen Victoria has warmly commended it, and Gladstone has taken occasion in a public address to praise it, and says that what has been done at Lambeth may be done in all England. There is no doubt that similar applications of art to industry, with similar gratifying results, can be made throughout the United States.

† Manual of Design, compiled from the writings and addresses of Richard Redgrave, R. A., surveyor of Her Majesty's pictures, late inspector-general for art, science, and art department. By Gilbert R. Redgrave. Published for committee of council on

Again, design must take into consideration the material of which the object is to be made, since clay, stone, wood, iron, silver cannot be treated in the same way; nor silk, cotton, wool, paper. Every material possesses qualities peculiar to itself, which the designer cannot safely ignore. And due regard must be paid to the proposed mode of manufacture, whether by turning, hammering, cutting, stamping, printing, weaving, or otherwise. In a word, everything must be *appropriate* and *rational*, or the design is faulty.*

INSTRUCTION IN DESIGNS.

11. *General principles.*—Of course, instruction in the exact details of applied design belongs properly to special schools alone. But instruction in those general principles of design which are common to the different kinds and modes of manufacture should form a part of elementary drawing in public schools. To this end the drawing copies should be such as to illustrate the best applications of right principles; the principles should be duly elucidated by printed text or orally; and in their original designs, whether for the bodies of objects or for their ornamentation, the pupils should be taught to show a certain degree of regard for the requirements of applied design—for the *true function* of *ornament*. They should, for example, recognize the fact that a design for a stone pitcher should be less delicate than a design for a porcelain pitcher, and that a design for an ornament to be cut in stone should be less elaborate than the design for an ornament to be cut in silver. It is not at all necessary, however, to pay attention to the different modes of working silver, nor to the number of threads to the inch in a carpet.

Briefly, the principles of design should be treated in the public schools like the principles of arithmetic, of which the learner is taught to make general applications rather than all the specific applications required, for example, by the banker, merchant, or mechanic. Professional applications as well of design as of arithmetic are better learned elsewhere than in common schools.

12. *Linear ornament.*—In the simplest of all ornament, linear, the lines are merely lines. Straight bands, the zigzag, the fret, the guilloche, and scroll work are samples of linear ornament. The lines serve to mark the distribution of color when the ornament is flat, and the distribution of light and shade when it is in relief. Though so simple, this kind of ornament is oftentimes very pleasing. In logical, educational order it is the first that should receive the attention of the learner.

13. *Conventional ornament.*—When natural forms are employed for the purposes of decoration, and lines become something more than mere lines, the natural forms may be treated in two very different ways, the one conventional, the other imitative or pictorial. Both conform to nature; the first in general features only, the last in details. Instruction in the first should precede instruction in the last. Of course there are different degrees in conventionalization and different degrees in imitation.

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* Mr. Redgrave thus summarizes, in his Manual of Design, the controlling principles of style. He includes under style both construction and decoration, making the latter subsidiary to the former:

"1. Style implies some dominating influence reflecting the mind of the age in all its works, and therefore presumes a certain unity of character throughout.

"2. The primary elements of style are constructive, and the design of a work must have regard to construction, and consequently, to proper use of materials prior to the construction of its ornamental decoration.

"3. As construction necessarily implies a purpose, *utility* must have the precedence of decoration.

"4. As construction necessitates a proper consideration of materials, and as each material has its own mode of manipulation, and is wrought by varied and separate processes, design must be bad which applies indiscriminately the same constructive forms or ornamental treatments to materials differing in their nature and application.

"5. As the greater regulates the lesser, the building should determine the style, and all of which it contains of furniture or decoration should conform to its characteristics; and thus there would be a proper uniformity of style throughout, and a subordination of all the inferior objects to one another and to the whole."

Of course, "many minor principles, as Mr. Redgrave says, "are contained under each of these several propositions."

CARVINGS SHOWN BY PORTUGAL.

In Moorish or Arabian ornament, under the influence of the Mohammedan religion, which forbids the representation of natural objects, conventionalization is carried so far as to leave but the remotest hint of nature. This is well illustrated by the wonderfully instructive carvings in the Portuguese exhibit. These carvings are reproductions of Moorish ornament from the Alhambra. The only elements used are a leaf, a bud, and a half-opened flower, so treated as to give but a vague hint of their natural origin. By the aid of these, with interlacing, has been produced a startling variety of carved ornament for the capitals of columns, for the lintels of doors and windows, for spandrels, for mirror and other frames, for covering flat surfaces, convex surfaces, and concave surfaces. One little suspects, at the first glance, that these different specimens of decoration are composed of the same simple elements; but a closer study shows that such is the case. There are breadth, repose, effects of light and shade, with enough of intricacy, though nothing comparable to the intricacy of the Chinese puzzle carving, to challenge and delight investigating curiosity. The addition of color increases still further the pleasing effect. It is indeed wonderful to see how much charming decoration may be got from a little, when that little is properly treated.

SUGGESTIONS FROM NATURE.

14. *Organic growth.*—Plant forms, but parts rather than wholes, are most frequently used for conventional ornament. When so used the laws of their organic growth should be strictly observed. If, for example, the leaves are in nature arranged alternately upon a stalk, they should not be represented in conventional ornament as growing in pairs, though they may be represented in pairs if it is shown that they are held together by artificial, not natural means. It is still more palpably improper to unite organically the leaves and flowers of two different plants. This principle of ornament is so simple that a child may understand it; but in order to apply it successfully it is necessary to study nature with care, especially the vegetable world, from which most of the laws and rules of conventional ornament have been derived.

ARRANGEMENT OF PARTS.

15. *Symmetry and rythm.*—The natural form for the conventional ornament having been selected, the construction of the unit or repeat, is next in order. The different possible arrangements of the parts composing such a decorative unit are:

(1) The bilateral, in which the right half exactly balances the left, illustrated by the human form and many leaves.

(2) The fanlike, in which there is radiation from a point, or stem, illustrated by certain leaves, as the horse-chestnut, and by some shells.

(3) The circular, in which there is radiation from a center, illustrated by snow crystals, and the arrangement of the petals of many flowers.

(4) The branching, illustrated by the continued subdivisions of the branches of a tree.

(5) The vine-like, or continuous.

(6) The catenary, which gives the festoon.

(7) The spiral, illustrated by the tendrils of plants and by some shells.

These are the only possible arrangements for the repeat (which should have a definite geometrical form*) in conventional ornament, and one perceives that any child can be readily taught them.

Symmetry is the controlling law, the right half, for example, being just like the left. If, however, one part is unsymmetrical in itself, as the hand, the symmetry is restored by balancing this with another similar unsymmetrical part. Two of these arrangements may sometimes be combined, as the second and the fourth.

The decorative repeat must possess unity, must give the impression that it is an organic whole, and not a mere fortuitous concourse of lines. There must be a proper and agreeable distribution of parts, and these rythmically arranged, neither too much nor too little surface being covered. Usually the ornament should cover about two-thirds of the surface, one-third being left for background. If the material of which the decorated object is made has a beauty of its own, a greater proportion of background is allowable than when the material is homely.

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*It is not alone conventional ornament that should observe definite geometrical forms, but fine art as well. Says Burnet in his treatise on painting: "Geometric forms in composition are found to give order and regularity to an assemblage of figures, for in fact we can have no idea of form without a portion of distinct shape, which, being arranged so as to make one part of the composition dependent on another for its completion or extension, produces an harmonious assemblage of lines, independent of the aid of light and shade or color. Groups of figures without some appearance of geometrical form produce a confused effect upon the spectator, in whose mind their appearance would indicate one subject as strong as another."

After the ornamental unit has been designed, then it must be rythmically repeated, that is, repeated at regular intervals. No other word so fully characterizes true ornament as does this word rythm.* The ornament can be repeated only thus:

(1) In any horizontal direction to cover a horizontal surface, as a floor or ceiling.

(2) Right and left, or obliquely, to cover a vertical surface, as a wall.

This simple condition must be observed, to wit, the ornament must always be seen the right way up. Thus an ornament suitable for a wall may not be suitable for a floor, as an ornament having a bilateral or fan-like arrangement. Nor is the festoon, which always gives the impression of hanging downwards, adapted to horizontal surface; yet the exhibition shows costly carpets with festoon borders.

CONVENTIONAL ORNAMENT.

Conventional ornament is, by reason of its rythmical character, especially adapted to manufactures. First, because it can be endlessly and cheaply repeated by weaving, printing, stamping, moulding, or by hand. All the ornaments, if conventional, needed even for the rich decoration of a vast building may be drawn on a few sheets of paper.

An illustration of this may be seen in the wrought-iron pavilion exhibited by Barnard, Bishop, & Barnard, of Norwich, England.† The decoration, which is in the Persian style, consists of the flower of the sunflower, its leaves and buds, the Persian "sacred tree," and a few trifles besides, which are all rythmically repeated, producing a very pleasing effect. The decoration was designed by James Whistler, and the drawing of it is all shown on a single sheet of paper. The simple units thus drawn were rythmically reproduced again and again by the workman. This pavilion is an excellent educational study in conventional decoration.

In the second place, conventional ornament is especially adapted to manufactures, because it is always subordinate in its effect to that of the object decorated, while it may often be made to suggest or emphasize the use of the object. Being subordinate in effect, its rythmical repetition seems wholly appropriate, as does a similar repetition in the case of soldiers filling the ranks.

OBJECTIONS TO IMITATION IN ORNAMENT.

16. *Imitation ornament.*—But imitative or pictorial treatment of natural forms gives something more than true ornaments; something which asserts rights of its own, an independent existence. There is no subordination, and a rythmical repetition of the pictorial form produces something of the same absurd effect as would a rythmical repetition of generals to command a single army. But not only is ornament of the imitative kind less appropriate than conventional ornament to numerous useful objects, it demands too much technical skill, to say nothing of suitable materials, for its successful employment in many manufactures. Unless such ornament is well executed, whether done in colors or in relief, it is a double failure.

It by no means follows that imitative ornament is superior, in an intellectual sense, to conventional ornament, because it demands more technical skill for its execution. One cannot produce and apply conventional ornament without thought, invention, exercise of the imagination. On the other hand, much of the pictorial ornament in the exhibition does not get beyond the mere imitative stage; there is no composition, no exercise of the creative faculty.‡

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* Says Professor Langl, in his official Austrian report on art education at Vienna Exposition: "The ornament, as long as it remains ornament in the truest sense of the word, and does not go astray among the variable forms of nature, as it did during the Baroque epoch, always constructs itself according to a certain rythmical measure, which gives law to the form. The characteristics of the various styles lie in the nature of this rythmical development, in the peculiarity of the growth of the ornament, as it were."

† This pavilion faced on the main aisle of the Main Building and near, the music stand in the centre.

‡ Speaking of imitation of nature, Hegel says, in his Philosophy of Art:

"This is the foundation of nearly all the theories upon art. Now of what use to reproduce that which nature already offers to our view? This puerile talk, unworthy of man's spirit to which it is addressed, unworthy of man who produces it, would only end in the revelation of its impotency and the vanity of its efforts; for the copy will always remain inferior to the original. Besides the more exact the imitation the less vivid is the pleasure. That which pleases us is *not imitation, but creation. The very least invention surpasses all the masterpieces of imitation.*"

Take the best of it, seen on the Sèvres vases from Government workshops, and exhibited in the French department of Memorial Hall. Some of the vases are decorated with flowers and fruit—lilacs and grapes, for example. The technical execution and the imitative result, secured by a great expenditure of time, are admirable; but that is all; there is nothing in the way of composition; nothing that called for an exercise of the creative faculty in arranging the natural forms to be drawn. Much the same may be said of the treatment of the figure when that is used. The French Government has come to the conclusion that all this must be decidedly changed; that there must be less of the merely imitative, and that the whims of artists must give way to settled principles.

It is evident, therefore, that elementary instruction in drawing in public schools should not greatly concern itself, if at all, with imitative or pictorial ornament.* Nothing more will be said about it here, the distinction between it and conventional ornament having been pointed out. Two modes of treating the figure have been described. Grotesque ornament should receive even later consideration than imitative, and so nothing will be said about that.

KNOWLEDGE OF HISTORIC STYLES DESIRABLE.

17. *Historic ornament.*—While the pupil is learning to draw and is acquiring a knowledge of the principles of decorative art, his instruction should be so ordered that he may acquire at the same time, with little or no additional effort, a knowledge of the more noted styles of ornament,† such as the Egyptian, Greek, Roman, Moresque, Gothic, and Renaissance. If properly taught, he will readily learn to distinguish one from another, while they will furnish the best possible drawing copies for cultivating the taste or illustrating the principles and applications of decorative art. Of course the object of studying any particular style is not that one may learn to imitate serv-

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* In 1874 a commission was appointed by the French Government to report on the porcelain manufacture conducted by the Government at Sèvres. The report of this commission condemns various things that now make it impossible to uphold "the grand national style, which characterizes the work of the beautiful epochs," and above all the mistake of the establishment in making paintings, as such, the highest aim of its ambition. All the evils the report attributes to the want of proper education on the part of the artists. It formulates the principles which ought to be observed, as follows:

"1. In the ceramic arts the ornament must always defer to the form of the object decorated.

"2. The adherence to perspective and its rules is out of place in the decoration of vessels. The imitation of paintings on vessels must cease.

"3. The decoration of vessels must also avoid paintings proper, for the further reason that, in contrast with the requirements of the latter, it needs full colors and but very few broken hues.

"4. Ceramic art, far from selecting all its motives from nature, must subordinate even the imitation of natural objects to the laws of harmony.

"5. The most beautiful colored decoration of vessels is not that which multiplies the hues and tints, but rather that which employs two complementary or two contrasting colors, and tempers and harmonizes them by the aid of a few subdued supplementary tints."

The report advises the establishment of an elementary school in connection with the manufactory, and of a class in decorative art at the academy. It is hoped that by making decorative art a part of the academical course that false ambition will be counteracted which at present induces the great mass of young people of talent to devote themselves to picture making, while decorative art is looked upon as of a lower order, and is treated with more or less of contempt. A small museum, after the example of South Kensington, is proposed in connection with this class.

† One reason for the prevalence of so much lawlessness and absence of correct principles in our manufactures is due to the fact that the law of pictorial art prevails rather than the law of ornamental art. Now, although the office of a picture is to bring some object, some incident, some history, or subject to the eye of the spectator, and to touch and please him with the passion, sentiment, or feeling which it is fitted to instil, it does this quite irrespective of the material in which or on which it is wrought. What has the canvas, the paper, the mere copper, or the panel to do with the enjoyment of a work of fine art? But ornament, on the contrary, if what has been said is in any degree correct, cannot be dissevered from the material, from which indeed much of its varied effect arises; and the character of the decoration adopted should be in accordance with the material, and with the uses of the object decorated. So much ought this to be the case that it might be expected that to see the design, or even a careful description of the ornament, would be sufficient to enable us to determine the nature and the uses of the object itself.—*Redgrave's Manual of Design.*

ilely, but rather that he may acquire from it lessons which will be of use in new times and new conditions. Classic ornament is no more to be neglected than classic literature; and no elementary instruction in drawing for the mass of the people can be called good that does not give a distinct notion of what specially characterizes the great styles of decorative art.

As already stated, this is no difficult matter. When one is given an opportunity to compare, he perceives at a glance that the Gobelin tapestry and the Denmark vase, to which reference has been made, are in the same Greek style, even to minutest details, and differ altogether from the Moresque style illustrated by the Portuguese carvings.

With proper instruction in historic ornament, as indicated, there would be an end of that absurd mixture of styles which is now so often witnessed in the decoration of objects. As Greek ornament and Moresque ornaments, for example, follow, in large part, different principles, they should, like the Greek and Arabic languages, be kept separate.

DRAWING IN PUBLIC SCHOOLS MUST BE TAUGHT BY THE REGULAR TEACHER.

18. *Instruction by the regular teachers.*—That drawing may be successfully taught in the public schools it must be taught by the regular teachers who have charge of the instruction in all other branches. Instruction by special teachers, except in high schools, for example, where all instruction is departmental, must always be a comparative failure. The first condition of success in teaching drawing as in teaching everything else is aptitude for the teacher's vocation and the knowledge that comes of experience in the school room. The regular teachers, if anybody, possess this aptitude, this knowledge, and it is much easier for them to acquire a sufficient knowledge of elementary drawing to qualify them for teaching it in the public schools, than for one who knows how to draw, but not how to teach, to master the teacher's art. There are other reasons, but this is sufficient, why drawing in the public schools should be taught as other studies are taught.

The most flattering success has always attended such instruction, when a suitable plan of work has been adopted, provision made for instruction of the teachers, and drawing made a subject of examination in the promotion of pupils. Indeed, under such regulations drawing soon proves itself to be one of the most easily managed of all studies.

PRACTICE IN VARIOUS METHODS DESIRABLE.

19. *General culture.*—The general culture to be obtained from drawing should never for a moment be lost sight of. Hence, the instruction must be varied, and not of one monotonous kind. The learner should be required at times to enlarge and reduce proportionally; at times to draw from memory, especially beautiful historical forms; at times to draw from dictation, that is, from spoken or printed words; at times to produce original compositions or designs; at times to finish with the nicest care, but at other times to work with the utmost rapidity. He should be required, in proper season, to draw from printed copies, from casts, and from nature. He should also be duly exercised, beginning with the point, in the use of the various vehicles of expression—the pencil, crayon, stump, instruments—and in the different kinds of drawing.

This variety of practice is justified, not only by the superior culture to be derived from the breadth of the instruction, but by the fact that one can only thus become, ultimately, the most efficient possible in any particular kind of drawing. All the different things hold together and help one another. It is quite early enough to confine the learner to a single variety of drawing when he has selected some special object for which he intends to use drawing and has entered a professional school.

THE BEST EXAMPLES AND MATERIALS SHOULD BE PROVIDED.

20. *Drawing materials.*—Suitable materials, consisting of printed copies, models, cots, books, pencils, paper for the use of teachers and pupils, are an absolute essential to success. Everything should be of the best, especially the flat copies, models, and casts, as they directly influence the taste.

How to make the instruction the best possible in quality, and how to economize the time of pupils, which is now so apt to be thoughtlessly wasted in all studies, are the two things above all others to be considered. It is not primarily how to save money, but how to get the most for the money and time expended. It is a very easy matter in attempting, in the case of drawing, to save the pupils 25 cents during a year, to waste the half of the time he spends in drawing during the year. As with him especially "time is money," he loses much more than is saved.

There must be, for example, no reliance upon wall charts, good enough for class instruction in some things, but very bad in most respects. There must be no reliance upon soiled copies, which become teachers of ugliness by being passed from class to class. There must be no reliance upon the teacher to provide copies on the blackboard, for the teacher, if amply qualified, has neither the time nor the strength to spend in making the suitable copies. He should use the blackboard with rare exceptions, only for the purposes of explanation and rapid illustration, giving most of his time to criticism of the work done by the pupils and to individual instruction. There must be no reliance upon the teacher to furnish detailed directions for executing drawings, but when the pupils are old enough to read there should be a printed text for their guidance; and, if the copies themselves are printed, they should be so arranged as to show their logical growth—the order of the steps to be taken in their execution. In the case of ornament especially it is of the utmost importance that the copy or model should exhibit its growth. As drawing from the actual solid or figure should be preceded by drawing from flat copies of solids and of the figure, the steps to be taken in drawing from the solid itself can be first and best learned by the use of printed copies which show the logical growth of the drawing.

Where these obvious essentials to good instruction are neglected in an attempt to save the pupils a few cents annually, or for any other reason, the larger part of the time of the pupil engaged in elementary drawing is sure to be wasted. At the same time both teacher and pupil labor harder than they would were they supplied with means adapted to their work. But the advancement of the pupil is too apt to be thus sacrificed in the name of economy.

RECAPITULATION.

1. Drawing calls for no exceptional treatment. The instruction should conform to those general pedagogical principles which hold good in other studies. Without such conformity the best results cannot be secured.

2. The foundation of all instruction in drawing, whether for industrial or artistic purposes, should be laid in the forms, facts, and principles of geometry. If not so laid, there can be no scientific certainty, but in all things there will be indecision and vagary.

3. Since the representation of two dimensions is so much simpler than the representation of the three, drawing should begin with the former, not with the latter; and as the forms of plane geometry are the simplest of all forms, they should be first drawn.

4. The pictorial representation of present solids by the free hand should be carefully distinguished from the representation of absent solids by the instrumental perspective. The forms of solid geometry being the simplest of all solids, they should be first drawn, and in the free-hand representation the circular solids should be taken before the plane sided. Skill in rendering the literal forms should be acquired before anything is done with light and shade.

5. The orthographic representation of the three dimensions for mechanical purposes should begin with the geometrical solids drawn as wholes, in sections, and otherwise. This being an admirable discipline for the imagination, it should be regarded, not simply as a professional variety of drawing, but as good for all.

6. The representation of geometrical forms should be followed by the drawing of conventional ornament and artificial objects. These are next in order of difficulty. Flat ornament, calling for the representation of only two dimensions, should precede ornament in relief.

7. The drawing of natural forms should follow, not precede, the drawing of conventional forms. Such is the order of difficulty, and such, for other reasons, is the true pedagogical order. He who has first drawn geometrical and conventional forms, takes larger views of nature, gives less heed to irregular surface details, and more heed to the general form and to the great fixtures of organic growth.

8. Elementary instruction in drawing, even if only industrial results are sought, should not wholly omit the human figure, but should take it after ornament. In no other kind of drawing is a rational, pedagogical treatment so essential to success, there being so many difficulties to conquer, while the learner is so readily deceived by faulty results. For the purposes of manufactures much attention should be given to drawing the figure in unpictorial outline.

9. While one is learning to draw he should at the same time receive instruction in those principles of industrial design which should be observed in designing both the forms of objects and their decoration. Most of these principles are so simple that they can be readily comprehended by the youngest grammar-school pupils, and some of them by pupils even younger. The acquisition of technical skill of hand is accelerated rather than retarded by the study of design, as this adds so much to the interest of the learner.

10. Instruction in design should attend, first, to the use to which the object is to be put, next to the material of which it is to be made, then to the proposed mode of manufacture. What is required by each should be pointed out. Every use has its

peculiar requirements; a design well adapted to one material is poorly adapted to another; what can be done by one mode of manufacture is impossible by another. The true function of ornament should be carefully distinguished from the true function of pictures.

11. The instruction in design should be general, not professional, the details of applied design being mostly omitted in common schools, as the details of applied arithmetic are mostly omitted.

12. Of the four kinds of ornament, linear, conventional, imitative or pictorial, and grotesque, linear ornament should receive the first consideration because it is the simplest.

13. The drawing of conventional ornament should precede the drawing of imitative or pictorial ornament. While both have to do with natural forms, conventional ornament attends only to regular general features, and so is the easier to draw and the better adapted to common manufactures.

14. In conventional ornament the organic growth of the natural forms employed should be scrupulously followed. If, for example, the leaves are, in nature, arranged alternately upon a stem, they should not be represented in conventional ornament as growing in pairs.

15. All conventional ornament should be characterized by symmetry and rythm. Without there there is no true ornament. The decorative unit should be first symmetrically arranged, and then rythmically repeated. Symmetry and rythm lend themselves in a peculiar degree to the requirements of common manufactures.

16. Elementary instruction in drawing should give little or no attention to purely imitative ornament. To say nothing on the score of questionable taste, this species of ornament does not readily lend itself to the manipulative requirements of common manufactures, whether it is applied in colors, by carving, or engraving. Nor should grotesque ornament receive more than a passing notice at this stage.

17. The study of historic ornament should form a prominent feature of elementary drawing. While the pupil is learning to draw, and is acquiring a knowledge of the general principles of decorative art, he should at the same time be taught clearly to distinguish between the great styles of ornament.

18. In the public schools the instruction in drawing, below the high school grade, should be given by the teachers who give the instruction in the other branches. The work can be neither so well nor so cheaply done by special teachers.

19. For the sake of general culture the instruction should be characterized by variety in the things taught, in the materials used, in the method followed. On knowledge, not on dexterity or precision in execution, should the greatest emphasis be laid.* Not only is this best for general culture, but in the end it affords the best special results.

20. The greatest care should be exercised in providing the pupils with suitable drawing materials. True economy, if economy is to be judged by results, requires that everything should be of the best when the improvement of the taste is involved. True economy also requires that the time of the pupil, rather than a few pennies, should be saved when it comes to a choice between the two.

METHODS ADOPTED IN THE FOLLOWING CRITICISMS OF DRAWING EXHIBITS.

Certain features by which good instruction in elementary drawing must be characterized have now been named and described. They furnish the standard which I shall use in passing judgment upon the drawing exhibits. When features that have been described and approved are met with it will not be necessary to stop and explain why they are good. It will be enough simply to mention them. When bad features are met with, or features that are not in harmony with the ones that have been described and approved, time will be taken to explain why they are bad. So, in reading what is said about the exhibits, one may get the impression, unless he recalls what is here stated, that there is an undue amount of adverse criticism. I trust the adverse criticism will be found sufficiently specific and intelligible to be of service to those concerned, provided it is just, and not of such a general character as only to irritate without instructing.

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* In his Lectures and Lessons on Art, Mr. F. W. Moody, instructor in decorative art at South Kensington Museum, says: "Educational drawing should be looked upon as the putting on paper of knowledge of facts and form; every line should be an attempt to fix and record the result of intellectual effort and comprehension." * * * "It is lamentable to see students taking months to acquire knowledge which by another method could be imparted in a week." * * * "That system is the best by which the student gains the greatest knowledge in the shortest time." * * * "Not only does rapidity enable more work to be done, but the multitude of works affords a larger experience."

THE FOREIGN EXHIBITS.

No detailed description will be given of the foreign exhibits of pupils' work and of foreign courses of instruction in drawing. Nearly all are characterized by the same general features. When they differ it is usually in minor matters, as in the order of taking the subjects taught, or in laying emphasis upon different things. Had the foreign exhibits of pupils' work been on a large instead of the present limited scale doubtless certain features of the instruction could be more clearly seen; but the main advantage would be in the greater stimulus imparted.

GREAT BRITAIN.

Comprehensive and systematic instruction in art for the advancement of industry began in Great Britain with the founding of the South Kensington Museum in 1852. Upon this institution there has already been expended more than $17,000,000. The annual expenditure now amounts to some $500,000. Indeed, in its appointments and its influence on art industrial education South Kensington Museum stands without a rival. It is a wonderful centre of educational energy.

Through this institution the Government makes itself felt and regulates art industrial education everywhere. Here are gathered in ever increasing abundance objects that illustrate the wit, the taste, and skill of man, in all ages and lands. For the instruction of those who cannot visit London travelling exhibitions of these objects are sent over the Kingdom. The Museum also provides instruction in the different branches of art for more than 800 students, at the present time about equally divided between the two sexes. It maintains a special normal class for the training of art masters* to take charge of art schools throughout the Kingdom. The instruction, which is comprehensive and severe, extends over four years.

Some one hundred and thirty schools of art (the number is steadily increasing), subordinate to the South Kensington Museum, are scattered throughout the Kingdom. In these subordinate schools the course of instruction is similar to that given at South Kensington, special emphasis being laid upon features specially required by local industries, as by pottery at Lambeth. These schools, including South Kensington, have an average attendance of about 200 students. Hence there are some 26,000 adults who are receiving broad, systematic art instruction in the art schools of Great Britain. Nearly as many more are taught drawing in night classes, which are also under the general supervision of the Government.

From lack of a suitable public school system the elements of an art education are not yet taught to the great mass of English children as they are taught in Austria and in some parts of the United States. Yet large numbers of English children are now receiving such instruction, and when the public school has been thoroughly established all will be taught to draw. To that result everything is tending. The industries of Great Britain have already profited so much by what she has done that she will not stop. Indeed, she cannot, if she would; for the rest of the world—as Austria, France, Prussia, the United States, Brazil, Japan—is taking advantage of her lessons and improving upon them. So if she stands still she will fall behind.

Great Britain was the first to subject art instruction for industrial purposes to a pedagogical treatment that was analytical, rigid, and comprehensive. The instruction was separated into its different parts, and these parts were logically arranged. The art schools were set at work with a curriculum that embraced more than twenty distinct subjects, with more than sixty clearly defined subdivisions. It was a bold and rational step, which other countries have not been reluctant to follow. There is little room to change this curriculum by making additions, and there is really nothing to be left out. Greater or less emphasis may be laid upon this or that feature, as experience shall indicate or the requirements of local needs demand, while modifications in the methods of teaching art as in teaching everything else will be in order at all times. The things to be taught and the general principles remain fixed. What Great Britain has done during the last twenty-five years to popularize art instruction must rank as one of the great educational achievements of the world.

South Kensington Museum makes an exhibit by "order of the lords of the committee of council on education." The first division of this exhibit "illustrates the system and result of instruction given to students in schools of art throughout the United Kingdom." This division includes nine sections. In the first section we have "a series of drawings executed by students showing the various stages of instruction in use in schools of art." The drawings are contained in sixty frames. They are from different schools of art; but, as a whole, they illustrate the instruction that is given to art masters, as in the training school at South Kensington. There is both free-hand work and instrumental work; there is work in outline, in light and shade, in water colors and oils; there are examples of building construction, decorative art, and pictorial art; there is drawing from the flat, from models, cast, and nature. But particulars need not be given here, as it will be necessary to speak somewhat in detail of the Massachusetts Normal Art School, which is closely modelled upon this. The exhibit shows the scope and the general features of the instruction, and what results are regarded as satisfactory; but there would need to be a graded series of lessons in each subject to show just how these results were obtained. There is nothing in the exhibit to illustrate modelling in clay which is taught in the English schools of art. The other eight sections of the first division of the South Kensington exhibit embrace works of a miscellaneous character. These works were executed by art students, and illustrate the practical applications to be made, in different industries, of the regular instruction in the Government art schools.

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* The directors say: "The National Art Training School at South Kensington is established for the purpose of training art masters and mistresses for the United Kingdom, and for the instruction of students in drawing, designing, and modelling to be applied to the requirements of trade and manufactures."

No drawings executed by children are shown. Their instruction must, of course, embrace the more elementary features of different subjects illustrated by the work from the schools of art. The exhibit really covers the most elementary work in drawing; by separating this from the more advanced work, a suitable course for children is secured. While a student is pursuing his studies in a normal art school, such as that at the South Kensington Museum, he should be made acquainted with the best methods of teaching pupils of all ages, since his course of study has that breadth.

Adverse criticisms have frequently been made upon the course of instruction pursued in the English schools of art. The criticisms are not always harmonious; what one condemns another often approves. It is said that the instruction makes too much of geometry, is too scientific, makes too little of nature, and is lacking in freedom; that in decorative design the conventional, with its symmetry and rythm, is cultivated too zealously, while the naturalistic, imitative, is neglected; that not enough is done with the human figure; that a great amount of time is wasted in securing effects in light and shade with the point which might be much more readily secured and with better educational results by the use of the stump or charcoal. These criticisms frequently come from persons who mistake the object of the schools. The instruction has been modified from time to time in certain details, as criticism and experience have shown the directors that the modifications would be improvements. No doubt other modifications will follow. As a whole, the instruction has gone steadily forward in the path which it took at the outset, justifying itself by results. Other countries, even France, are giving it their official indorsement by modifying their art-industrial instruction as rapidly as may be, and bringing it more into harmony with that of the English. Countries making their first essays in art education for industrial purposes take it as a model, and this model is so comprehensive that it cannot lead to the establishment of any narrow style or school in art. It inculcates those general principles upon which all art rests.

FRANCE.

The city of Paris exhibits six portfolios of large drawings, a part of which were executed with instruments, a part with the crayon or stump. These drawings illustrate what is done by boys and girls, by young men and young women, and by workmen, in the different schools, day and evening. While these drawings are not so arranged as to show a graded, methodical course of instruction, yet they give a pretty clear notion of what is done after the very earliest stage is past.

The instrumental work embraces problems in plane geometry, the projection of solids, machine and architectural drawing. The free-hand work embraces ornament, flowers, and the figure. Ornament receives special attention. There is nothing in the way of landscape, marine views, animals, insects, houses, castles, bridges, stone walls pictorially rendered, which, unfortunately, form a marked feature of the drawing instruction in so many American schools.

The drawings were executed both from flat printed copies and from the solid (the object itself); the larger part, however, from the flat. The paper varies in color, and is often of such a tint as to save the time of the student in finishing his drawing. It has also an excellent tooth, presenting a strong contrast to the smooth surface of writing paper and bristol-board on which the drawings from some American schools are executed.

The students wasted no time in laborious finish with the point (common pencil), but executed their work with a softer material that allowed them to work boldly and rapidly.

Several portfolios of drawing copies, from which many of the students' drawings were executed, are shown also. These copies are exceedingly meritorious. So much importance does the French Government attach to drawing "models," whether prints or solids, that it makes it a special charge to see that the schools under its control are supplied with good ones. The exhibit which the French publishers make of works relating to instruction in drawing and art is truly wonderful. Weeks might be profitably spent in their examination.

Popular education in France has been so long in so many hands that she cannot show a system of instruction in elementary drawing everywhere enforced. While she has long surpassed the rest of the world in advanced art instruction, she is surpassed by various countries in teaching children the elements of drawing. But the Government is now fully alive to the importance of doing for the instruction of the people in art what it has hitherto done for professional instruction.

The competition in the markets of the world has become so sharp that it is not safe to neglect the elementary art education of any class.

THE NETHERLANDS.

There is an exhibit of drawings by pupils connected with special artisan schools in Amsterdam and Rotterdam. The drawings have to do mainly with ornament and mechanism. They are well executed. There is also shown a large number of drawing-books, models, and casts. One quickly discovered that the course of instruction conforms, in its main features, to the course pursued almost everywhere in Europe for a similar purpose. It is severe in character.

BELGIUM.

Drawing is very widely taught in Belgium. I do not find any school work exhibited. Publishers, however, make quite an exhibit of drawing material. There are drawing-books and charts largely devoted to the representation of ornament in two dimensions. There are skeleton models in wire to assist the learner in acquiring the first notions of object and model drawing. A glass model for illustrating linear (instrumental) perspective is also shown.* The instruction rests upon geometry, and is eminently rational throughout.

SWITZERLAND.

Drawing has long been taught in the more advanced and special schools of Switzerland. No one can enter the Polytechnicum without a good knowledge of elementary drawing. In 1874 drawing was made a compulsory study in all the public schools, beginning with the first year. No pupil's work is shown, but there is quite a display of material indicating the course of instruction. The naturalistic element is pretty strong. More emphasis needs to be laid upon decorative design in the earlier stages. Applied design is taught in special schools.

RUSSIA.

The educational exhibit made by Russia is such as to indicate very clearly the course which the instruction in drawing takes from the primary school upwards. No school work from the lower classes is shown. Drawing from the solid finds a very early place in the course, and is a prominent feature. A comprehensive and intelligible display is made by the art school, founded by Count Troganhoff, at St. Petersburg. This school is evidently modeled after the English art school, but its drawing copies and models are, in large part, quite different from those used in England. Especially is this difference noticeable in the studies of ornament, which is almost wholly of a Sclavic character. This will give a distinct personality to Russian manufactures, which will make them more sought after in the markets of the world. There is a similar art school at Moscow, which is exerting a decided influence upon manufactures and commerce. The whole educational exhibit made by Russia is notable.

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* The use of outline wire skeletons for illustrating the first lessons in free-hand drawing from objects is a decided help to the learner in acquiring a knowledge of the apparent directions which the lines of the objects take. These skeletons enable him clearly to see the directions, and when he comes to draw from the actual objects he knows what must be the truth as regards both the visible and invisible parts, and the imagination, in the case of the invisible parts, has far less difficulty in realizing it.

But the use of such means as will present to the eye all the conditions and facts which the imagination is called upon to realize in linear perspective (parallel, angular, and oblique or accidental), is of yet greater importance. It is exceedingly difficult for most persons, relying upon the imagination alone, to obtain a just notion of perspective, so much is there that must first be clearly "seen in space," or imagined, before it can be understood. But let the instruction begin, as all good instruction must, with an appeal to the sense perception; let everything which the imagination is called upon to realize in space be first made, as it can be, visible to the eye, and three-fourths of the difficulties (and they are many) which surround linear perspective will disappear at once. The facts and conditions having been first clearly shown to the eye, will be easily understood and clearly imagined, when it comes to practical application.

GERMANY.

There is no pupils' work to illustrate the course of drawing instruction in the elementary schools of Prussia and other states of Germany. In most parts of Germany the people's schools and the industries have long held a high rank; of late they have, relatively, fallen behind. Many of the industrial products exhibited show that there is great need of further elevating the artistic taste of the people in order that they may keep pace with their foreign competitors. It is evident from many things exhibited by publishers that there is room for improvement in elementary drawing instruction. This fact is recognized, and at the present time increased care is being bestowed on instruction in drawing.*

AUSTRIA.

Within a very few years the whole educational system of Austria has undergone a radical and rational revolution. In the past the people's schools and the industries of Austria, outside of the city of Vienna, were of a very inferior character. Both are now making rapid advancement. Drawing now occupies a conspicuous place in all the schools, from the lowest to the highest, in the Empire. Various industrial products exhibited, notably those from Vienna, whose art industries had long ranked second only to those of Paris, clearly show the purifying influence of the new movement in art industrial education. No pupils' work is shown, however, which is very much to be regretted. The following is the official schedule of instruction to be given in drawing:

"Drawing and the knowledge of geometrical forms" as taught in the Austrian "people's school" of five classes, in accordance with the instruction of the minister of education of May 18, 1874.

"A.—*Drawing.*

"*Aim.*—The pupil is to be enabled to understand geometrical forms correctly, his eye is to be disciplined, and his powers of graphic representation are to be developed as far as the simple objects of every day life are concerned.

"*First and second class* (first and second school year).—In these classes the preliminary exercises for the attainment of a certain degree of skill of hand, which are common to both writing and drawing, are to form the subjects of instruction. These exercises are to be succeeded by the representation of simple objects such as are used in object teaching.

"*Third and fourth class* (third to fifth school year).—Exercises in drawing various forms based upon the straight line, the angle, the triangle, and the quadrangle. Application of these forms to designs of the simplest kind, beginning of dictation drawing.

"*Fifth class* (sixth, seventh, and eighth school year.)—Drawing of simple ornaments, and of front views of technical objects according to scale; dictation and memory drawing. The knowledge obtained in geometry is to be made the basis of free-hand drawing. In the case of girls special attention is to be paid to the application of drawing to needlework (female handiwork).

**Course of study for the normal drawing school in Berlin.*—(1) Instruction in ornamental forms, exercises in free-hand drawing, with lectures, weekly, 6 hours; (2) perspective, light, and shade, 6 hours; (3) anatomy, instruction in proportion, 6 hours; (4) modelling from drawings and models, 5 hours; (5) free-hand drawing, ornaments and animals decoratively treated, 8 hours; (6) free-hand drawing, ornaments and parts of human figure in outline, 5 hours; (7) free-hand drawing, figure in outline in execution, 13 hours; (8) ornamental color studies, architectural drawing, 5 hours; (9) art history, 4 hours; (10) instruction in shade, in color, 4 hours; tuition for all, 72.

Instruction in drawing in the higher schools of Prussia.—Fourth, fifth, and sixth class of gymnasia, 2 hours; real gymnasia, second, third, fourth, fifth, and sixth class, 2 hours; first class, 3 hours. Real schools of first order (nine years' course), fourth, fifth, and sixth class, 2 hours; lower third class, 3 hours; upper third and lower second class, 2 hours; upper second and first class, 4 hours. Real schools of second order, (seven years' course) each class, 2 hours.

"B.—*The knowledge of geometrical forms.*

"*Aim.*—Knowledge of the most important geometrical bodies and of their boundaries; the ability to measure and to compute planes and bodies such as occur in every day life.

"*Fourth class, second division* (fifth school year).—Starting from the cube the simplest angular bodies are treated, and thus the knowledge of the various planes, angles, and lines is acquired.

"*Fifth class* (sixth, seventh, and eighth school year).—Repetition of the subjects treated in the fourth class, and the study of the round bodies according to the same method. Drawing of the skeletons of bodies,[*] and the making of geometrical bodies by the pupils themselves. Measuring and computation of planes and solids according to the circumference (perimeter) and contents.

"(The number of hours allowed per week in the fifth class schools to drawing and geometry, which are classed together as one subject, is as follows: First year, —; second, 2½; third, 2½; fourth, 2; fifth, 3; sixth, seventh, and eighth, 4 hours for boys, 2 hours for girls.)

"*Eighth class* (citizen schools for boys.)—In these schools 'geometry and geometrical drawing' forms a subject by itself, 'free hand drawing' being taught separately.

"The time per week allotted to the two studies is as follows:

Subjects.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Sixth year.	Seventh year.	Eighth year.
	Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*
Geometry and geometrical drawing	....	....	....	....	1	3	3	3
Free-hand drawing	....	2½	2½	2	2	4	4	6
Whole number of lessons per week	18	20	23	25	26	27	26	28

"*Geometry and geometrical drawing.*

"*Aim.*—Certainty in the recognition, comparison, computation, and measuring of geometrical plane figures and solids.

"*Fifth class.*—Commencing with the cube, the simplest angular and roundbodies are to be studied, and by means of this study the knowledge of the various planes, angles, and lines is to be acquired.

"*Sixth class.*—The most important theorems of plane geometry, exclusive of the theory of similarities. Problems in construction in connection with the instruction given.

"*Seventh class.*—Repetition of the lessons of the sixth class, supplemented by the theory of similarities; computation of planes. Problems in construction in connection with the lessons in geometry so far given. Some knowledge of plans. If possible surveying exercises with rods and chains.

"*Eighth class.*—Computation of the surfaces and of the contents of those bodies which are met with in every-day life. Drawing of simple architectural objects and of simple machines, accompanied by the explanations necessary to their understanding.

"*Free hand drawing.*

"*Aim.*—Skill in the unaided comprehension and representation of plain geometrical forms and of their combinations. Representation of geometrical solids, according to the principles of perspective. Skill in drawing ornaments, from copies and from models.

"*First and second class.*—Same as first and second year of fifth class school.

"*Third and fourth class.*—Same as third and fourth class of fifth class school.

"*Fifth class.*—Drawing of simple ornaments. Dictation and memory drawings.

"*Sixth class.*—Drawing of plane geometrical figures, free hand from blackboard drawings by the teacher. The teacher to give the necessary explanations, and, starting from the point, to treat of straight and curved lines in various positions and in various relations to each other, of the various angles, of triangles, polygons, the circle, and the ellipse. Combinations of rectilinear and curvilinear figures. Delineation of geometrical solids from wire models.

"*Seventh and eighth class.*—Delineation of geometrical solids from wooden models, as a continuation of perspective drawing. Exercises in ornament drawing, at first from blackboard drawings by the teacher, and after that from flat copies and from models. Exercises in memory drawing, all the dimensions of the drawing to be discussed before beginning.

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[*] Literally "the nets of bodies." This means the delineation of all the boundary lines of a body, the invisible lines being indicated by dotted lines.

[Eighth class.—Citizen schools for girls. Time allotted per week.]

Subjects.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Sixth year.	Seventh year.	Eighth year.
	Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*
Knowledge of geometrical form	....	....	....	....	1	1	1	....
Free hand drawing	....	2½	2½	2	2	3	3	3
Needlework	....	....	3	3	3	4	4	6
Whole number of lessons	18	20	25	26	26	26	26	26

N. B.—The number of lessons in needlework are added to show why drawing for the girls is curtailed.

"*Knowledge of geometrical forms.*

"*Aim.*—A knowledge of the most important geometrical bodies, and of their boundaries. Ability to measure and to compute the geometrical planes and surfaces met with in every-day life.

"*Fifth class.*—Commencing with the cube, the simplest angular bodies are to be studied, by which means a knowledge of the various planes, angles, and lines is to be imparted.

"*Sixth class.*—Repetition of the lessons of the fifth class, and study of the round bodies according to the same method. Drawing the skeletons of geometrical solids, and the making of geometrical solids by the pupils.

"*Seventh class.*—Computation of surfaces and bodies, according to their perimeter and their contents.

"*Free-hand drawing*

is the same in all classes as for boys, with this qualification only, that in the selection of the objects to be drawn, due attention is to be paid to the special needs of the girls in regard to female handiwork."

CANADA.

ONTARIO.

We are informed that "drawings from objects is one of the prescribed subjects of study for each class in the public schools." One hour a week is devoted to it. If one may judge from the results exhibited, the province of Ontario might learn from the mother country a few useful lessons in drawing.

One or two hundred pencil drawings are submitted by the boys' model school, the girls' model school, and the normal school, all at Toronto, and by two or three public schools in other places. These drawings are all executed with a fair degree of skill, but, with a few exceptions, from flat copies instead of objects. They include animals, birds, flowers, the human figure, landscapes, and some common manufactured objects. The only drawings directly from objects are nineteen, representing bowls, pitchers, and the like, by pupils in the Toronto normal school. These are but fairly done at best.

There is shown a good collection of drawing materials for drawing from the solid, such as are "supplied for the schools from the depository of the education department, Toronto." But the drawings exhibited do not show that these models are anywhere used. Evidently drawing is as yet hardly more than a name in the public schools of Ontario; but more can be said for Ontario than for any of the other provinces of Canada. There is in all of them, however, a waking up to the importance of the study.

AMERICAN EXHIBITS.

I now come to the drawing exhibits from different parts of the United States. The account given of these and of the courses of instruction will be more particular than the account given of the foreign ones. The drawing instruction in many American schools is marked by flagrant errors; that these may be avoided they need to be described. On the other hand, some American schools show admirable results obtained through rational instruction. What some American schools have accomplished all may, with reason, strive to accomplish, since the system of public instruction is much the same throughout the whole country. The new features which have recently been added here and there to the public school system for the promotion of art industrial education may be added everywhere. The good things to be imitated, like the bad things to be avoided, need to be described.

MASSACHUSETTS.

In 1870 drawing was made an obligatory study in all the public schools of Masschusetts, and towns having 10,000 inhabitants were required to maintain free evening drawing schools for the instruction of adults. It was soon found that public day schools would fail to produce good results unless a rational system of instruction was adopted, and that, from a lack of suitable teachers, many of the evening schools must also fail. A person qualified to take the general direction of the new educational movement was sought in England. The authorities there in charge of art industrial education recommended Mr. Walter Smith, who was a graduate of the training school for art masters at South Kensington, and who had had ample experience as a teacher and director of art schools, and as supervisor of drawing in more elementary schools in one of the largest manufacturing districts of Great Britain. In 1871 the Massachusetts board of education, jointly with the school committee of Boston, engaged Mr. Smith to be State director of art education and supervisor of drawing in the Boston schools. Mr. Smith's plans were adopted and have been followed.

So the course of art instruction for industrial purposes in Massachusetts is closely modeled upon that of the English schools of art; but Mr. Smith is not a blind follower of the English schools in all particulars, as shown by his report on the French drawing exhibit at Paris in 1863.* These modifications have been made in the English course of instruction the better to adapt it to the American public school system.

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*This report was made at the request of the directors of South Kensington Museum. While he says that "a comparison of the English and French systems of art education is overwhelming in favor of the former," yet in various things he thinks the French excel. He says, for instance, "the most noticeable feature of the use of these examples (casts) was that in all cases the life-sized or heroic busts from the antique or modern art, as well as such subjects as the Florentine scroll in ornament, were drawn the actual size of the casts. The peculiarity of manipulation is that all drawings from the cast are made with the stump and leather, which school of art authorities in England declare to be, as a method of working, very false in principle and vicious in practice. However this may be, the extraordinary beauty of many of the works produced by this method, such as those in the schools of the Lequiens père and fils, the Toulouse School, and others, with the delicate beauty of detail which their noble sire enabled the students to introduce into the drawings, would naturally lead us to question the vileness of the work and also to ask what especial virtue there is in imperial size (29½ inches by 21½ inches) which causes it to be the only size of drawing admissible to the competitions of the English schools of art. Observing, also, the variety of subjects here introduced, I feel disposed to question the wisdom of limiting the number of subjects of study in the competitions to so few examples in each stage. I am aware of the necessity of maintaining unity of principle in the studies of all schools of art, but this might be retained with a much greater variety of examples."

Again, in speaking of the French treatment of the figure, he says: "With reference to the mode of teaching the figure I cannot help regarding it as superior to our English method as a system for workmen. Outline from the flat and cast of the intensely accurate character demanded by the Department is not inflicted on the French artisan, as it is on the English, drawing from good examples of lithographed shaded copies seeming to take the place of outline drawing; and when the student has arrived at drawing from the cast the most rapid method of work is taught him, the aim being to get truth of effect and intense accuracy of spirit rather than an effeminate beauty of workmanship. By the French artisans the roughest and commonest materials are used apparently with indifference to medium, vehicle, or method; he sees beauty of effect or form, which he strives to reproduce in the readiest manner consistent with truth; he appears to be solely concerned with the true rendering of each cast, shadow, or half tint, or reflected light and the means used, whether of material or style of work seem to him to be a matter of no consequence. Yet these French artisans produce drawings of the human figure incomparably more powerful in effect, more true to the cast, more poetically rendered than any works produced in our art schools in England, and do this without having to pass the ordeal martyrdom of months of outline practice or practice the slow torture of stippling with the chalk point. The plan of using good shaded copies as an elementary stage and advancing from this to drawing from the cast, in the French manner, is, I think, well worthy of consideration for schools of art in England. Too much time is occupied with us in getting finish, merely as finish, before the student knows in what true finish really consists. Our drawings also are on so small a scale, usually, that bona fide finish, the true rendering of every detail, is nearly impossible in them. We require an intermediate stage in our course of figure drawing between outline and shading from the cast, and this suggested stage, which only now exists nominally, should embrace the study of the figure in light and shade from copies, and standard works or copies for art

THE NORMAL ART SCHOOL.

In 1873 the Massachusetts Normal Art School was established for the purpose of preparing teachers of drawing and thoroughly competent art masters. To be sure, according to the Massachusetts plan, the regular teachers in the common schools must give the instruction in drawing as they give the instruction in all the other branches. But the regular teachers must first be taught by competent persons, and there is need of persons specially qualified to give instruction in the high schools and in evening classes, also to supervise drawing instruction in the cities and towns. Hence there is a large field of activity for teachers trained in the State Normal Art School.

EXHIBITIONS OF SCHOOL DRAWINGS.

Another thing should be mentioned as helping along the new educational enterprise Each spring there is held in Boston an exhibition of drawings from the day schools, the evening schools, and normal schools in different parts of the State. These exhibitions have been on a large scale and very largely attended, with decidedly good results in various ways.

Besides these State exhibitions, there are local exhibitions in various cities and towns. The local exhibitions of the city of Lowell have been notably successful.

THE STATE EXHIBITION AT THE CENTENNIAL.

The exhibit of elementary drawing for industrial purposes, which Massachusetts makes at Philadelphia through a committee of the State board of education, is much the largest in the whole Exhibition, and the most noteworthy.

The course of instruction, as comprehensive as that of any foreign country, is illustrated by pupils' work from all the classes in all the grades—primary schools, grammar schools, high schools, evening drawing schools for adults, the State Normal Art School, and technical schools. The work here shown was selected from the annual State exhibition held at Boston in March. It is but a small part of what was shown on that occasion. The drawings sent to Philadelphia were selected so as best to illustrate the course of instruction in each city and town. The arrangement is so admirable that one can readily make out the end sought in the different schools and the steps taken to reach it. Twenty-four cities and towns are represented: Boston, Clinton, Hingham, Groton, Easthampton, Fitchburg, Salem, Cambridge, New Bedford, Adams, Pittsfield, Fall River, Northampton, Holyoke, Lowell, Newton, Worcester, Taunton, Lawrence, Haverhill, Newburyport, Lynn, Somerville, and Greenfield. These cities and towns include the larger part of the population of the State. So good an exhibit, I presume, could not be made by the other cities and towns. The instruction in the different cities and towns is characterized by the same general features, and there is a marked agreement even in details. It is not necessary, therefore, to speak of each city and town separately, as it is not now a question of which has done this thing or that thing best. The course of instruction will be described.

THE MASSACHUSETTS COURSE OF INDUSTRIAL DRAWING.

By the side of the work from the schools are to be seen all the appliances used in the schools for giving instruction in drawing. There are solid models, casts, drawing books and cards, teachers' manuals, large plates for mechanical and architectural drawing; parallels of historic ornament in color, large studies in light and shade and sepia, and studies from nature in water color.

Much thought is given to showing the growth of the drawing and ornament, which is such an excellent educational feature. This display, the most comprehensive and systematic one of the kind in the whole exhibition, is made by L. Prang & Co., art and educational publishers, of Boston.

State Normal Art School.—It will be well first to describe the exhibit made by this school, since the instruction in this school covers everything taught in the other schools. The design of the school is thus set forth in its circular for 1876–'77:

"This school is intended as a training school for the purpose of qualifying teachers and masters of industrial drawing. Its specific aim at present is to prepare teachers for the industrial drawing schools of the State, who shall also be able to direct and superintend the instruction in this branch in the public schools. In the future it may be necessary to provide for high skill in technical drawing and art culture, but the immediate pressing demand is for teachers who know the elementary subjects thoroughly, and can teach them intelligently and successfully; and this demand the school will aim primarily to supply, making its training as complete and practical as the circumstances will permit."

The same circular thus describes the course of instruction, which is divided between four classes and extends over four years:

"The term 'industrial drawing' includes both instrumental and free-hand drawing. The former will be taught by lectures given by the lecturers on the various subjects, and the latter, by individual instruction by the instructors, who will also superintend the artistic work in the studio, comprising free hand drawing, painting, and designing. The work of Class A is devoted to elementary drawing; of Class B, to form, color, and industrial design; of Class C, to the constructive arts; and of Class D, to sculpture and design in the round. These groups of subjects can be studied in any order after Class A has been passed through, subject only to an examination as to the fitness of the student."

The circular also gives this account of the examination for certificate:

"For permission to be examined for a diploma, the student will be required to submit class exercises, the subjects being described in the list of diploma drawings. These drawings and paintings are to show whether the student possesses the manipulative skill necessary to teach drawing. If the works pass examination, the student will then be allowed to offer himself for the diploma examination, which will be held at the end of each term. This examination having been passed, the student will receive a diploma, testifying to his scientific and artistic qualifications to give instruction. A student failing to pass an examination in any subject, may present himself again at a future examination, those subjects already passed being recorded in his favor; but he will not receive the diploma of the school until all the subjects of examination have been passed."

THE NORMAL ART SCHOOL EXHIBIT.

There are shown twenty-four frames containing certificate drawings similar to those in the South Kensington exhibit. Each frame contains work by two students, and the twenty-four illustrate the instruction in Class A, or the first year.

The following are the subjects: (1) Geometrical problems; (2) Perspective problems; (3) Orthographic projection; (4) Machine drawing; (5) Architectural drawing and building construction; (6) Isometric projection; (7) Projection of shadows; (8) Model drawing in outline; (9) Model drawing, shaded in chalk; (10) Model drawing, shaded in monochrome; (11) Model drawing, shaded, stumped; (12) Outline drawing of ornament from cast; (13) Outline drawing of foliage from nature; (14) Outline drawing of human figure from copy; (15) Outline drawing of animal form from cast; (16) Outline drawing of furniture from object; (17) Shading from cast with stump or point; (18) Shading from cast in monochrome; (19) Elementary design; (20) Applied design; (21) Designs for drawing lessons in blackboard and dictation; (22) Painting in water color from copy; (23) Analysis of historical ornament; (24) Botanical analysis of a plant for the purpose of design.

The student having executed drawings in each of these twenty-four subjects, and sufficiently well to obtain the approval of the master of the school, Mr. Walter Smith, he has then, at the end of the school year, to submit to a time examination in each of the following subjects:

(1) Plane geometrical drawing; (2) Perspective practice; (3) Perspective theory; (4) Orthographic projection; (5) Isometric projection; (6) Projection of shadows; (7) Architectural drawing; (8) Model drawing from solid; (9) Drawing from memory; (10) Drawing from dictation; (11) Historical ornament; (12) Harmony of color.

If the result of the examination in each of these subjects reaches the prescribed standard, the student obtains a certificate showing that he has completed the first year's course in a satisfactory manner. It will be observed that much work is put into the first year. Indeed, it covers nearly, if not quite, all the instruction in drawing that is required in the different grades of the public schools. It is not expected, of course, to make the student an expert in all, or in any one, of the subjects studied during the year. The school has a more rational object than that, namely, to give the student such a grounding in principles, method, and manipulations as he must have in order to teach the different subjects intelligently.

The student, if he would obtain permission to take the examination at the end of the year for his second certificate, must have made satisfactory progress in painting in water colors, in tempera, and in oil, and he must have produced a satisfactory design for each of any four industries, and have had one object manufactured from a design of his own. The examination for the second certificate embraces time sketches in water colors, in tempera, and in oil; also ten papers upon art industrial subjects covered by the instruction of the year.

The third year's course embraces architectural design and building construction, machine drawing, construction and design, descriptive geometry and topographical drawing. When the student has made satisfactory progress in these subjects and prepared the necessary drawings to entitle him to it, he is permitted to take the examination for his third certificate. This examination embraces eight time sketches and papers covering architectural design, machine drawing, topography, descriptive geometry, and ship draughting.

The fourth year, class D, is devoted to sculpture and design in the round modelling and casting. The subjects studied are ornament, the figure, and designs for industrial objects, the latter to be drawn before modelled. Twelve models covering these subjects have to be prepared in clay, cast, and painted, the execution to reach a prescribed standard before the student is allowed to take the examination for his fourth certificate. The examination embraces both theory and practice. When these four certificate examinations have been satisfactorily passed, the student is entitled to receive the diploma of the school.

It will thus be seen that the work done in the Massachusetts State Normal Art School has four general divisions, corresponding to the four years of the course: First year, "elementary drawing;" second year, "form, color, and industrial design;" third year, "the constructive arts;" fourth year, "sculpture and design in the round modelling and casting.' The curriculum is as comprehensive and the subjects are as systematically treated as in any European school established for a similar purpose, that is, for the training of well qualified art masters. Let it be remembered, in passing judgment on this school, that it is not the purpose of the school to produce artists nor yet experts in any particular department of art industry, but teachers familiar with the theory and practice of all the arts, fine and industrial, so far as they depend on form and color, and with the best methods of imparting instruction in them. More than seven hundred different students have received instruction in the school since it was opened three years ago.

Though the school has been in operation but three years, yet the exhibit illustrates the whole four years' course, as some of the students who had completed the first two years' work, instead of taking that of the third year, took that of the fourth.

EXTENDED INFLUENCE OF THIS STATE SCHOOL.

Thus much space has been given to a description of this school because it is the only one of the kind in the United States, though let us hope there will soon be many such; and because a knowledge of this school gives a clear notion not only of what is now doing in drawing throughout Massachusetts, but also of what it is proposed to do when the full scheme of popular art education adopted by the State is carried out. The more elementary portion of what is taught in the State Normal Art School has already been successfully reproduced in the public schools; the more advanced portion has also begun to be reproduced in the high schools and in the evening classes. Soon there will be a wide educational demand for all that is taught by the Massachusetts Normal Art School. Time is a vital element in establishing a comprehensive system of art education for a State. It is a work that cannot be done in one year nor yet in five years, however favorable the conditions. It must be a growth, but the growth can be greatly accelerated by rational efforts.

A careful examination of the drawing exhibits made by the different cities and towns of Massachusetts shows that the more closely the lead of the Normal Art School has been followed the better the results. It is also plainly observable that the good influence of this school has been felt all over the country, for the best drawing exhibits from the public schools of other States are those in which the instruction has been modelled on the general principles and methods of this school.

THE DRAWINGS SHOWN BY THE PUBLIC SCHOOLS.

The drawing exhibits made by the public schools of Massachusetts are extensive, and so systematically arranged that it is an easy matter to trace the progress of the instruction from the lowest step to the most advanced. I shall speak of the exhibits as a whole.

In the primary schools the pupils are trained in geometrical definitions and in the simplest principles of decorative design; in drawing with the free hand from printed copies (geometrical forms furnishing the basis of the copies); also from memory, from dictation, and from blackboard copies; and jointly with this instruction they are trained in original composition or design. There is constant practice in proportional enlargement and reduction. Only two dimensions are represented, and there is no imitative drawing of natural objects. Conventional leaves and flowers are used in some of the decorative designs.

In the grammar schools the work of the primary schools is continued, but is of a much more advanced character. Plane geometrical drawing with instruments is added, and free hand drawing in outline from solid models and objects. Prints and the actual solids are used in conjunction. Thus a beginning is made in representing the three dimensions pictorially. Some instruction is given in historic ornament and decorative styles. Geometry forms the basis of the work, while the instruction is rational, not dogmatic. The emphasis is laid upon knowledge, and not upon fineness of execution; yet the execution is remarkably good.

The subjects taught in the grammar schools, with the exception of plane geometrical drawing, are continued in the high schools, the models and objects, however, being drawn in light and shade as well as in outline. More emphasis is laid upon making industrial designs for a particular purpose, as for jewelry, tiles, fans, lace, oil-cloths, calico prints, pottery, &c. Instrumental, prospective, and mechanical drawing are added; also drawing from the cast and from nature; also botanical analysis for industrial design, and painting in water colors. The pupils are not confined to one medium, as the point, for instance, but are taught to manipulate different materials—pencil, chalk, stump, &c. Geometry still forms the basis of the work. The instruction is varied and rational, the aim being, not to make proficients in any one thing, but to impart such taste, knowledge, and skill as will be of universal utility. But the high school work is not so good, comparatively, as that of the grammar school. Doubtless it will show marked improvement during the next three years, as the high schools become filled with pupils who have been well trained in drawing in the lower grades and thus prepared to do the legitimate work of the high school.

The time devoted to drawing differs somewhat in different schools. The maximum amount appears to be two hours a week.* The original designs are usually first studied up and roughly sketched at home, then executed in school. This appears to be the extent of the home requirement. Only about one-half of the time devoted to drawing is spent in working from printed copies. For promotion pupils must pass a satisfactory examination in drawing as in other studies. Except in the high school the teachers who give instruction in the other studies teach drawing.

Such, in outline, are the general features of that system of instruction in elementary drawing for the whole people and for industrial purposes which has been adopted in Massachusetts and has already produced results so gratifying.

Against these general features it seems to me that no just objection can be made; adverse criticism, if reasonable, must be limited to the way this or that school works out this or that detail.

DRAWINGS SHOWN BY THE FREE INDUSTRIAL CLASSES.

The display of drawings from the free industrial evening classes for adults, which all towns and cities having 10,000 inhabitants are required to maintain, is quite large and excellently arranged. It shows that the instruction in these classes is in harmony with what has already been described, and therefore is comprehensive, systematic, and rational. As would be naturally expected, the drawings have much of an applied character, such as different industries require. For the success of these evening classes special teachers are needed. The best work, regarded as a whole, appears to have been done in the city of Taunton, whose evening classes have, from the start, been under the direction of Mr. John T. Meats, from one of the English art schools, and master draughtsman for the Taunton Locomotive Works.†

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* Thrice as much time is usually devoted to spelling. Yet to spell correctly, according to the conventional method, is, when one comes to think of it, a mere grace of learning for most persons. It is of vital importance only to the type-setter and proof-reader, and to them only because it is essential that printed words should always present the same appearance to the eye in reading. As hardly five in a hundred read a thousand written words a year, it is evidently a matter of no consequence, for the great mass of the people, whether written words are spelled uniformly alike or not.

†*The Taunton Evening Drawing School.*

The school is divided into two sections: (1) Instrumental drawing; (2) free hand drawing, design, and modelling. Each section receives two lessons of two hours duration per week, for a term of about sixteen weeks each year. It is always recommended that beginners in instrumental drawing pass through the elementary stages of the free hand course, and *vice versa.*

The instrumental classes are subdivided into classes in machine and architectural drawing, after the common elementary course has been mastered.

INSTRUMENTAL DRAWING: ELEMENTARY COURSE. (*From blackboard.*)

1. Practical geometry, from blackboard demonstration and printed definition.
2. Principle of dark and light lines as applied to outline drawings, together with exercises elucidating the term elevation, plan, section, etc.
3. Orthographic, isometric, and perspective projection.
4. Intersection and development of surfaces.

ADVANCED COURSE: MACHINERY.

1. Delineation of helices, screws, spirals, cams, eccentrics, etc., from blackboard instruction.
2. Construction, theoretical and practical, beginning with the application of the

The Free Institute, Worcester, and the Institute of Technology, Boston, make decidedly commendable exhibits of elementary and advanced drawings, executed by their students. The exhibit, consisting wholly of original designs (in flat colors) ready for use, made by the Lowell Free School of Design for Textile Fabrics (connected with the Institute of Technology and under the charge of Mr. Charles Kastner), is also highly deserving of praise; but an account of the drawing instruction in such schools does not come within the scope of my report.

OHIO.

CINCINNATI.

Drawing has been taught in the public schools of Cincinnati since 1868, when the present superintendent of drawing was appointed. It was made a subject of study in the high schools some half a dozen years ago. The promotion of the pupil depends upon his proficiency in drawing the same as upon his proficiency in other studies. The special teachers of drawing consist of one superintendent, one male assistant,

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cycloid, epicycloid, involute, etc., to the tooth of a wheel, and ending with working drawings of a complete machine. Blackboard.

3. Drawing, from specification and original design, of machinery, with special reference to the requirements of pupils individually.
4. Practice in the various methods of finishing drawings, shading in line and color, and in the projection of shadows.

ADVANCED COURSE: ARCHITECTURE.

1. Delineation of architectural mouldings and details.
2. Projection, as applied to building contruction in the cutting of joints, etc.
3. Examples of construction involving the study of the joints and bonds used in carpentry and masonry.
4. Execution of working and finished drawings of buildings or other objects, as may be best adapted to the case of each pupil.

FREE HAND DRAWING AND DESIGN: ELEMENTARY COURSE.

1. Outline drawing, from blackboard instruction.
2. Ditto, from printed copy.
3. Ditto, from models and casts.
4. Original designs to fill given spaces, in outline and half-tint.

FREE HAND DRAWING AND DESIGN: ADVANCED COURSE.

1. Shading, in pencil, chalk, charcoal, and monochrome, from printed copies.
2. Ditto, from models and casts.
3. Original designs, to fill given spaces, in monochrome, and in colors harmonized.
4. Original applied designs, for surface decoration, for industrial purposes, and plastic design.

MODELLING.

From casts, printed copies, and original designs of ornament, natural objects, animals, and the human figure.

REMARKS.

One term of sixteen weeks is taken up with each elementary course, and two terms with each advanced course, by the average pupil, allowance being made for work at home, where the immediate supervision of the teacher is not required. It is found of great importance so to shape the instruction as to admit of considerable elasticity in the time taken by the different pupils, that quick workers may not become impatient nor slow ones discouraged. More attention is given to the standard of work and to its thorough comprehension by the pupil than to the time consumed in its execution.

In the instrumental classes, numbering nearly a hundred pupils, Mr. Meats, the principal, has one assistant teacher for the intermediate mechanical classes, and one for the architectural classes. The elementary and advanced mechanical classes are taught by the principal.

In the other section, which numbers more than a hundred pupils, Mr. Meats has also two assistant teachers; one for the elementary free hand and one for the modelling class. He himself teaches the advanced free hand and designing classes, and supervises the whole work.

The average enrolment, per term, of pupils, from the establishment of the school, has been about 230, with an average attendance of about 80 per cent. The population of Taunton, in 1870, was 18,629; estimated in 1876 at 20,429.

and three female assistants. The superintendent teaches in the two high schools and in the normal school, while he has general charge of the instruction throughout the city. The assistants teach in the intermediate or grammar grades, where only a few of the regular teachers give any instruction in drawing. During the first five years, that is, in the primary schools, drawing is taught by the regular teachers.

DRAWINGS SHOWN AT THE CENTENNIAL.

Cincinnati exhibits seven portfolios of drawings done by pupils. They illustrate the work of seven years, extending from the second year of the school course to the end of the intermediate or grammar grade. Each portfolio fairly illustrates the work of a single year, though the drawings were specially executed for the Philadelphia Exhibition, and though in each portfolio the same form is repeated again and again, as if it were a matter of vital importance to show the comparative skill of hundreds of pupils in doing the same thing.

The actual work of the pupils, from day to day, is not shown; yet, in spite of the sameness of the drawings exhibited, one is enabled, by the aid of the official statement* accompanying the drawings, and by an examination of the "drawing-blocks" used by the pupils instead of books, to obtain a clear idea of the character of the instruction throughout.

The drawings submitted are all confined to the free hand representation of two dimensions only. The "drawing blocks," however, provide for a few exercises in the pictorial representation of objects (flat copies) towards the close of the course. The instruction begins right by beginning with two dimensions and touching upon the principles of decorative design; but it adheres too exclusively to this kind of drawing, and yet is far from making the most of it.

For about two years the children have no practice in the drawing of curves, though during the second year the average age of the children is nine years and three months. They are mainly exercised in drawing squares, dividing their sides proportionally, and filling them with symmetrical patterns.

In the second year half tint makes its appearance and is persistently used throughout the rest of the course. When properly used half tint increases the pleasing effect of the drawings; but it is a great consumer of time, for which it makes no adequate return. The pupil should be exercised in the use of half tint only enough to learn its proper application. One cannot help thinking, however, that in the Cincinnati schools more than one-half of the time devoted to drawing is spent in half tinting. To drop nine-tenths of the half tint would be a decided gain. Much time is also lost in drawing the same feature four, six, and even eight times. This would be less objectionable were the feature that is thus repeatedly drawn some beautiful historic form which would be worth remembering and would improve the taste of the pupil obliged to look at it so long and so intently. But the forms thus repeated have little or nothing to commend them; indeed many of them are exceedingly ugly, and instead of improving must tend to vitiate the taste. So little is done with natural forms conventionalized that the pupil must fail to obtain correct notions of the treatment of such forms for decorative purposes.

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*The portfolios were accompanied by the following prefatory statements, made by the school officials, describing the "character of exercises and methods of instruction:"

Second school year.—The exercises in this grade consist in drawing straight lines in different directions and combining these into simple figures. Division of lines and sides of figures into two, four, and eight equal parts, and formation of new figures by symmetrical connection of opposite dividing points. The use of rulers and measures is not permitted; rubber in the hands of teacher for correction only.

Third school year.—Review and extension of previous course, consisting of more advanced lessons of same character and style; simple lessons in design by repeating and combining figures previously drawn. The use of rulers, &c., as in previous year.

Fourth school year.—Division of lines into three, six, and nine equal parts, free hand construction of new and pleasing figures based upon division into three equal parts, and occasional exercises in drawing from memory. The use of rulers, &c., as previously.

Fifth school year.—Exercises in drawing curves and circles continued. Division of lines into five equal parts, and construction of the octagon and octagonal stars. Repetition of given sections of figures so as to form ornamental hexagonal and octagonal figures; horizontal and vertical borders. The use of rulers, &c., as previously.

Sixth school year.—Exercises are a repetition of those had in the previous grade. Rulers, &c., as previously.

Seventh school year.—The exercises in this grade assume a freer character; organic forms are occasionally introduced, then rendered conventional, and applied in designing. The use of rulers, &c., as previously.

Eighth school year.—The exercises in this grade assume a freer character; sections of figures are given to be completed by the pupils. Organic forms are introduced, rendered conventional, and then applied to surface design. Exercises strictly free hand. Use of rulers, &c., as previously.

Only two arrangements of ornamental forms are illustrated—arrangement about a centre, and bilateral arrangement; and the latter does not appear until toward the close of the course. This is good, but there is very little of it. Historic ornament receives no consideration whatever. Among the copies giving diagram views of objects there are none of beautiful objects.* There is very little exercise in enlargement or reduction, in dictation or memory drawing, or in original design. There could not well be much of the last, so few of the principles of design are taught.

Thus it will be seen that, while so much attention is given to drawing two dimensions, a great deal less is accomplished in this direction than one has a right to expect. There is an entire omission below the high school of every other variety of drawing, unless we except the provision made for a few exercises in the pictorial representation of objects from flat copies. The instruction is just the reverse of that given in the Cleveland schools. The pupils are strictly forbidden to use a ruler for making measurements or for drawing lines. It should be observed, however, that the principal measurements are usually made for the pupils by dots printed on their drawing paper.†

So, notwithstanding the ban laid upon rulers, the eye receives very little of that severe training in the judging of distance and proportion which so strongly characterizes the drawing instruction in the schools of New Haven, Conn. Everything taught in the public schools of Cincinnati is treated very systematically. Drawing forms no exception, certainly not below the high school. The grading of the instruction, however, has been made too much with reference to minor features, and too little with reference to fundamental and comprehensive principles, and in this respect differs decidedly from the Massachusetts practice. For example, it has been made to conform to the number of parts into which the lines are divided. Thus it is not till the third year that the pupil is exercised in dividing lines into three, six, and nine equal parts; while the division of lines into five equal parts is put off until the fourth year. This is mere trifling. Indeed, with the Cincinnati rate of progress twenty-five years would be required for the completion of such a course of drawing as should be found in public schools. Yet Cincinnati has done some things exceedingly well in her primary and intermediate grammar schools, and is in condition to make all required changes with ease and success.

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* Professor Langl, in his official report to the Austrian Government on the education art exhibit at Vienna, says: "The common schools of Cincinnati exhibited the work of their scholars in truly magnificent bindings, one subject having been drawn by the whole class, so that the same volume frequently showed the same figure fifty to sixty times. The drawings consisted mostly of small geometrical figures, stars, &c., executed tolerably evenly, and there was at least a certain principle in them. Among the work of the teachers' normal and high schools, on the contrary, sins against everything like good taste were to be met with, that made one's hair stand on end."

† SERIOUS OBJECTIONS TO THE STIGMOGRAPHIC METHOD.

The stigmographic method pervades the Cincinnati drawings. This is a method adopted in some parts of Europe, especially in Austria. Its aim is to diminish the early difficulties in drawing and so enable very young pupils to begin the study. Dots are printed upon the paper at regular intervals, and the pupil draws lines connecting these dots and forming symmetrical patterns and diagram outlines of simple objects. Thus all the measurements are made for the pupil; he selects the points to be united and draws the lines. For the Cincinnati pupils enough dots are printed on the paper they use in drawing to indicate the principal measurements; they connect the given points, when it becomes an easy matter to settle the other proportions. The stigmographic method has evidently grown out of the kindergarten use made of a plane surface divided into small squares. After careful consideration I am quite convinced that the stigmographic method is not to be commended. Even the use of it in the kindergarten is questionable, and its use becomes more than questionable in schools having older pupils. It defeats the training of the eye in judging distance and proportion; it constrains the freedom of the hand; if the drawings are at all complicated, it renders the execution tedious and laborious. More accurate results, it is true, are secured in the earlier stages, but at a great sacrifice. Let the children in the primary schools have slates and paper free from all guiding dots and lines, teach them the different ways in which forms can be symmetically arranged, set them resolutely at work, hampered by no petty restrictions, and you will inevitably obtain good results. Ample proof of this is seen in the work from primary schools exhibited by Syracuse, N. Y., Newton, Mass., and by Milwaukee, Wis. How much better is this work, with its variety and freedom, than the rigid monotonous results usually produced by the stigmographic method. I am inclined to think that all the drawing in the kindergarten, done by this method or in general conformity to it, is worse than none. The tracing of beautiful copies by means of transparent paper laid upon the copies would be much better. The drawings adapted to the stigmographic method are so monotonously rigid and oftentimes so ugly that they must tend to vitiate the taste of the children obliged to look at them so much and so intently. There may be too many (apparent) helps in drawing as in other studies.

There is a slight exhibit from the schools and normal school; but it presents nothing that calls for special notice. There are a few original compositions in color for industrial purposes from the school of design. These, taken in connection with carvings done by former students of this school, and exhibited in the woman's pavillion, show that advanced instruction for art industrial purposes in Cincinnati now leaves much to be desired.

CLEVELAND.

For ten years previous to 1872 drawing was not taught in Cleveland; since then it has been systematically taught under the direction of a special superintendent. The time allowed per week has been as follows: First year, 100 minutes; second year, 100 minutes; third year, 125 minutes; fourth year, 75 minutes; fifth year, 90 minutes; sixth year, 90 minutes; seventh year, 120 minutes; eighth year, 120 minutes.

Cleveland exhibits seven volumes of drawings ("selected work to illustrate method of teaching"), one volume for each school year from the second to the eighth, inclusive. The drawing, done with the free hand, is wholly perspective. Great stress is laid upon the fact that the pupils draw directly from the objects. There is also exhibited one volume of drawings, in outline, made from common objects by all grades of pupils at home. Most of the drawings, however, illustrate the regular school instruction below the high school. They were specially executed for the Philadelphia Exhibition, and are done with a fair degree of intelligence. Four volumes of drawings are also exhibited, illustrating the full work of two classes in the last year of the grammar grade—both school work and home work. Some of the school work is faulty in perspective, while much of the home work is decidedly so, showing that the pupils fail in applying those principles of perspective which they are supposed to have learned in school. Such is the general character of the instruction for seven years below the high school. It aims wholly at the perspective or pictorial representation of the three dimensions, and so is just the reverse of the instruction given during the same years in the Cincinnati schools.*

Cleveland exhibits three volumes of original decorative designs executed by the first year pupils of the high school; also three volumes of original plans and elevations, mostly of houses, executed by pupils of the second year. The decorative designs, though some of the simpler ones are quite right, show, upon the whole, a lack of unity, an unsatisfactory distribution of parts, and a violation of the laws of organic growth. It is evident that the pupils have received no suitable instruction in the elementary principles of design, though the plan pursued, if it were taken only as a feature of the instruction, would be commendable. The original designs for houses are quite captivating at first sight; but when it is seen that the drawing of these plans and elevations has been preceded by no systematic work in orthographic projection, one feels that they stand for very little.

Some half dozen original decorative designs, simple and quite praiseworthy, etched on glass, are shown; also, several well executed drawings of public buildings made directly from the buildings by pupils.

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* The course of instruction illustrated by these seven volumes is as follows:

Second school year.—The children are exercised in drawing a square and cross in perspective in different positions. In themselves the objects are thin, and they are treated as though they had no thickness. The pupils are also exercised in writing descriptions of a square placed in two positions, in answer to the following questions: "1. What is Fig. 1? 2. Why do you think it is what you say? 3. What does Fig. 2 look like? 4. In what position does it say the object is? 5. What makes it look as if it was turned?"

Third school year.—The work is just the same as in the second year.

Fourth school year.—Work the same as that of the two preceding years, except that the square and cross are combined, and a hole is cut in the square allowing more intricate arrangements.

Fifth school year.—Drawing of the square and cross combined as in the preceding year.

Sixth school year.—Drawing of the square, the cross, and square frame combined.

Seventh school year.—Drawing of two squares (or square frames), cross, and model table combined. The objects are placed in all sorts of positions.

Eighth school year.—Sundry objects, such as wheels, carts, chairs, desks, are drawn in perspective outline. This is application of perspective principles previously learned. Written descriptions of drawings of the cross continued.

Finally, there is exhibited one volume of "drawings from the object, shaded," the work of the senior class. These consist of geometrical solids, vases, and ornament in relief, and parts of the human figure. The work is right in character and fairly done. This completes the account of the high school instruction.

COMMENTS ON THE COURSE IN CLEVELAND.

The course of instruction in drawing in the Cleveland schools has its good and its bad features; and its friends are quite justified in still regarding it as an experiment, as an accompanying circular state that they do. It is good in the protest which it makes against the exclusive use of printed copies, but it is bad in carrying the protest too far. It is good in requiring the pupils to give a written description of the condition under which the object to be drawn is seen, for this calls for knowledge before manual execution. It is good because of systematic gradation below the high school; but bad inasmuch as this gradation, like the gradation in the Cincinnati schools, is made to depend so largely upon a single minor feature — the different positions in which a square and cross may be placed.

Two or three simple principles of perspective, which might be mastered in three months, if not in three weeks, are given a controlling position for seven grades. Monotonous and unprofitable work, this drawing the same thing again and again with a slight change of position! The same rate of progress throughout would require twenty-five years for the completion of such a course of drawing as should be taught in the public schools of Cleveland.

It may be further observed that the course of instruction is badly arranged, even if it is granted that it should begin, as it does, with perspective, since it takes rectangular objects before circular, the former being more difficult to draw, and makes excessive use of mere planes, like the cross and square, for illustrating the principles of perspective. One of the main objects to be secured by drawing from the solid is the training of the imagination to "realize form in space." Now, when a mere plane (and the square or cross used in the Cleveland schools is practically such) is given to be drawn there is nothing for the imagination to do; there is no solidity, nothing invisible, nothing to be imagined. For the purpose of illustrating foreshortening, the convergence of lines, and the lessening of size by distance — all there is of perspective in object drawing — it were much better to use such skeleton solids, made of wire, as are shown in the Russian and Belgian exhibits. Object drawing always involves solidity, but much of this Cleveland work which is specially emphasized as object drawing has nothing whatever to do with solidity.

It is a serious defect in the order of the instruction that it does not begin with representing two dimensions. Did it so begin, elementary design, which is now put off until high school and then receives very little attention, could be taught in the lower grades, which would greatly increase the interest and profit. The following may be named as additional objections to the instruction: Geometry is not taken at its basis, and so the work runs astray; but little attention is given to decorative and industrial design; historic ornament and styles in decorative art are wholly ignored; the models placed before the pupils to be drawn are poorly calculated to develop the taste; little heed is given to memory or dictation drawing; the principles and practice which lie at the foundation of all mechanical drawing appear to be quite neglected; only one variety of drawing is taught for the space of seven years below the high school. So there is certainly a broad field for improvement.*

COLUMBUS.

This city exhibits three volumes of drawings to illustrate the work from the first to the eighth year of the school course. Drawing had been taught one year and a half at the time of the examination, when these specimens were executed.

One of the three volumes is filled with exercises in memory and dictation drawing, another with drawings from flat or printed copies, and with geometrical drawings, executed with instruments; the third with original decorative designs. Except in a few instances, but two dimensions are represented. The instruction is systematic and logically progressive. The forms used in the original compositions are mostly conventional, and the arrangement is symmetrical about a centre for the purpose of filling geometrical spaces. One of the most common mistakes made is that of mixing different elements in the same composition, as Greek and Moresque elements, and Moresque and slightly conventionalized natural forms. Purity of style should be carefully preserved; the design should be all one thing or another. It would be better to exercise the pupils in a large variety of symmetrical and rythmical arrangements for decorative compositions. Nevertheless this original work is altogether creditable to the pupils.

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* One is not surprised that the official "explanation" which accompanies the exhibit says: "The system of teaching drawing in the Cleveland schools, as here presented, lays no claim to originality, and is as yet not thoroughly organized. While we have made some progress, and have what is believed to be the rudiments of a practical system of instruction, it is also true that we are very far from having discovered (?) the best method of presenting it, and are not yet positive that the steps in the process are arranged in the best order."

There is also exhibited a volume of drawings showing the work of the first two years in the high school. In its general features the work is the same as that done in the lower grades, but the execution is better — is all that could be reasonably desired. Indeed, the execution in all the grades is quite good enough. Of course the present instruction in the high school is merely provisional; the standard of requirements will be raised when the school is filled with pupils who have been taught the more elementary phases of drawing in the lower grades.

SUCCESSFUL RESULTS.

When we consider the short time that drawing has been systematically taught in these schools, and that but little more than one hour a week has been allotted to the study, the results must be pronounced exceedingly gratifying. Indeed, in none of the other public schools of Ohio have such good results been obtained. To what is this marked success of Columbus due? In the first place it is due to the adoption of a rational course of instruction which had been thoroughly tried elsewhere and proved to be good. Then, to teach the regular teachers and take general charge of the work, a person was secured who not only knew how to draw, but who had been trained for a teacher of other things as well, and so was specially prepared to treat drawing in a pedagogical manner, and to make such modifications in the details of instruction as local circumstances might require. It should also be added that the pupils have been supplied with suitable drawing books and drawing materials. Had it been the chief aim to save each of the pupils the expenditure of a few cents each year, they would not have accomplished one-half as much in the time, while the labor of the teacher would have been greatly increased. The school authorities chose the economical course, that is, the course which must be pronounced economical when judged by results.

Model and object drawing and figure drawing should, and doubtless soon will be, added to what is done in the Columbus schools. In the evening school for workmen, which is under the same general direction as the day schools, these two subjects and other additional ones are now taught.

The teacher in general charge of the instruction presents a volume of drawings which admirably illustrates the course he has laid out for twelve school years. He presents a definite plan, and a good one, with even the details of work indicated. The plan shows clearly that he knows what he is about. As the work in the upper grades must be provisional at present, that is, much the same as in the lower grades, it will be several years before the plan can be fully realized. But the realization is certain to come, and speedily, for the plan is rational and feasible.

The following is the course of instruction in drawing as laid out for the Columbus schools by Mr. Goodnough, the superintendent of drawing:

I.—*Free-hand outline.*

(*a*) *From flat copy.*—(1) Lines, straight and curved. (2) Simple forms. (3) Ornament. (4) Foliage. (5) Animal forms. (6) Human figure.

(*b*) *From the round.*—(1) Geometric solids. (2) Vases, common objects, &c. (3) Plaster cast.

(*c*) *From dictation.*—(1) Geometric forms, ornament, &c. (2) Models, objects, &c.

(*d*) *From memory.*—(1) Forms previously drawn.

II.—*Light and shade.*

(*a*) *From flat copy.*—(1) In crayon point.

(*b*) *From model.*—(1) In crayon point. (2) Rubbed or stumped. (3) In monochrome.

(*c*) *From plaster cast.*—(1) In crayon point. (2) Rubbed or stumped. (3) In monochrome.

III.—*Painting in water color.*

(*a*) From flat copy.

(*b*) From nature.

IV.—*Historical ornament.*

(*a*) Characteristics of styles.

V.—*Design.*

(*a*) *Elementary.*—(1) Variations of simple forms. (2) Combinations of abstract lines and forms to fill given spaces. (3) Arrangements of conventionalized foliage to fill given spaces. (4) Botanical analysis for design, in pencil. (5) Applied design, in pencil, for common objects.

(*b*) *Advanced.*—(1) Botanical analysis for design in color. (2) Applied design in monochrome and colors, for centre piece for a ceiling, border for a room, damask tablecloth, wrought-iron work, book covers, carpets, chinaware, lace curtain, wall paper, wall brackets, &c.

VI.—*Mechanical drawing.*

(*a*) *Geometry.*—(1) Plane geometrical problems constructed.

(*b*) *Perspective, linear.*—(1) Parallel. (2) Angular. (3) Oblique.

(*c*) *Projection drawing.*—(1) Orthographic. (2) Isometric. (3) Shades and shadows.

(*d*) *Machine drawing.*—(1) Details. (2) Full drawings.

(*e*) *Architectural drawing.*—(1) Details. (2) Plans and elevations. (3) Designs.

ORDER OF STUDY.

Prof. Walter Smith's text books used.

PRIMARY SCHOOLS.

First year.—(1) Geometric forms and lines to be named and drawn. (2) Simple outlines from blackboard, dictation, and memory drawing. (Work on slates.)

Second year.—(1) Same subjects as first year, but to make fair drawings. Commence first series of drawing cards. (2) Elements of design. (Work on slates.)

Third year.—(1) Learn to draw on paper, drawing exercises previously drawn and taking new ones. Finish first series of cards. (2) Design; variations and combinations of simple forms.

Fourth year.—(1) Continue work on paper, making fairly good drawings, and working occasionally on the blackboard. Use intermediate drawing book No. I. (2) Design; arrangements of parts given by the teacher. (3) Finish all the definitions of plane geometrical figures.

GRAMMAR SCHOOLS.

Fifth year.—(1) Apply elements learned in primary schools, viz, geometrical definitions to geometrical drawing, definitions and names of solids to model drawing, from blackboard only and curved forms only. (2) Design in geometric forms, square and compass used, applying practically geometric drawing. Use free hand drawing book No. III. Use geometrical drawing book No. I.

Sixth year.—(1) Free hand outline from free hand book No. IV; memory, dictation, and blackboard drawing; geometrical drawing book No. II. (2) Model drawing from the board-curved and right-lined figures; learn names of and draw from memory the historic ornament occurring in drawing book. (3) Design; using conventionalized leaves as material.

Seventh year.—(1) Free hand outline from book No. V; memory, dictation, and blackboard drawing; commence model drawing from the (2) analysis of plants for design, and designing from natural foliage as material; geometrical drawing book No. III.

Eighth year.—(1) Free hand outline from book No. VI; geometrical drawing book IV, finishing the subject; model drawing from solid. (2) Applied design in pencil for common objects.

HIGH SCHOOL.

Ninth year.—(1) Free hand outline from standard copies; ornament, foliage, animal forms, and human figure. (2) Linear perspective with instruments; parallel. (3) Styles of architecture; model drawing of groups in outline. (4) Design in monochrome; harmony of color.

Tenth year.—(1) Light and shade drawing from copy in crayon point. (2) Botanical analysis and design in color; drawing from plaster cast in outline; construction of columns and entablatures of the several orders of architecture. (3) Angular perspective and orthographic projection.

Eleventh year.—(1) Historic ornament from plaster cast in pencil, monochrome, or crayon; oblique perspective and isometric projection. (2) Applied design in color for manufactures, as carpets, lace, paper hangings, prints, pottery, glass, fresco, and metal work, &c.

Twelfth year.—(1) Painting from copy and nature in water color. (2) Projection of shade and shadows; machine and architectural drawing.

Average time required per week, two hours.

The regular teachers are instructed and teach the primary and grammar course. Special teachers required to superintend and to teach in the high school.

The course in the high school is in a measure elective, pupils taking either mechanical or free hand work, or a part of each.

SANDUSKY.

Eight volumes of drawings are submitted by Sandusky. They illustrate the course of instruction in the primary, grammar, and high schools. The instruction is evidently systematic, progressive, and thorough. The various steps would be better shown if so many of the drawings coming from different pupils were not just alike.

The instruction begins with the drawing of two dimensions after, of course, a little work simply with lines. The pupils draw from printed copies and from blackboard copies, with practice in enlargement and reduction; they also draw from dictation and memory, and have much practice in original composition. If one may judge from the work submitted the younger pupils are not exercised as they should be in making their drawings on a scale sufficiently large.

The designs, with one or two exceptions, illustrate in their general arrangement, symmetrical repetition about a centre. There is no vertical, horizontal, or oblique repetition of the ornamental unit for the purpose of covering space, nor any radiating or bilateral arrangements. Pupils ought, however, to be taught, almost at the same time, various principles of design, and be required to apply them in their original compositions. The original designs shown were selected from the ordinary school work, and are quite creditable.

Much stress, very rightly, appears to be laid upon drawing from dictation; some of the exhibited examples are quite elaborate, perhaps too much so. The memory drawing should include more historical forms, that is, forms worth remembering. Memory drawing is a much more important matter than dictation drawing.

As the pupils advance they take up plane geometrical drawing, and drawing from models, good specimens of work in these departments being shown. The model drawing begins with suitable practice in rendering the outline, or literal form, of the objects; then shading is taken.

Drawing has now been taught for three years in the Sandusky schools, and with decidedly encouraging results. The instruction has already a broad basis; only a few more features need to be added in the upper grades, and these additions can be readily made, as the pupils are promoted, until the course is rendered complete.

OBERLIN.

The two volumes of drawings exhibited by Oberlin illustrate, in the main, work in two dimensions. The forms drawn are largely ornamental. There are a few specimens of outline drawing from models; but the drawings are mostly from flat copies, memory, and dictation. No original designs. Drawing is taught in all the grades; but as it is a new study the instruction is as yet much the same in general character throughout. This is as it should be, for the older pupils, to begin right, must begin where the younger ones do. A right beginning has been made, but it is evident that the teachers do not yet proceed with a firm and confident hand. Time and continuance in the present course will remedy all this.

FREMONT.

Four volumes of drawings are exhibited, illustrative of the work done by the pupils in all the grades. Except in a few instances the drawings, which are from flat copies, from memory and dictation, involve only two dimensions. The instruction appears to be rationally progressive and systematic. Its character would be better shown did not the exhibit contain so many repetitions of the same drawing. Well begun, but not much done yet.

OTTAWA.

The drawings exhibited by the Ottawa union schools are a burlesque even on barbaric art. They are miscellaneous in character, and give not the slightest hint of a rational course of instruction.

INDIANA.

FORT WAYNE.

The exhibit of drawings by Fort Wayne is large and decidedly creditable.

The regular class work of the first eight years of the public school course is illustrated by one "endless chain" of drawings—mainly original designs for decorative purposes. Only two dimensions are represented, and the designs are nearly all repetitions about a centre. A fertile invention is manifest, and some of the compositions are quite commendable. But most of the designs show overcrowding, a result of the childish invention which it is difficult to restrain. Strict observance of a few simple rules of design would give greater simplicity, and in every way better results, with a much smaller expenditure of labor.

The work of the first nine years is further illustrated by an "endless chain" of drawings executed on the blackboard and photographed. They are chiefly original designs of the general character of the ones just described. Some specimens are more elaborate, with the original unit repeated. Some are diagram drawings of designs for pitchers, vases, and the like.

Fort Wayne also exhibits a revolving hexagonal case of drawings executed by pupils of the high school in regular class work. Historic ornament and style receive consideration, as shown by samples of Egyptian and Greek ornament, fairly done in colors from flat copies. There are samples of partly original designs for vases, executed in white line on a brownish background. In some of these perspective is introduced, not a proper thing, when an object is really to be made from the design. If introduced it should be correctly treated, which it is not here. There are samples of crayon studies from flat copies in light and shade, and original designs for cups and saucers, executed in colors. The decoration of these cups and saucers is simple, chaste, and appropriate, affording a marked contrast to the designs in the lower grades. So far as the outline drawings of the cups is concerned there is an improper attempt to show both sides—something of perspective. The manufacturer would prefer diagrams. Finally, there are original designs for both black and white lace, and praiseworthy designs they are, too. Only those scholars whose rank shows a continuous average of more than ninety per cent. are permitted to take the advanced instruction in drawing which is here illustrated.

Fort Wayne presents one more hexagonal case of drawings, miscellaneous, executed in colors and crayon by pupils of the high school. The water colors and crayons are excellently rendered, but are all done from prints. There are designs for eight book covers. Of these not much that is favorable can be said, except that they are creditable as a first attempt by public school pupils.

It will be observed that nearly all the drawings exhibited by Fort Wayne are confined to the representation of two dimensions. To what has been done in this direction there is but little more to be added, plane geometrical drawing with instruments being about all. Drawing is a new study in the schools of Fort Wayne, and wisdom has been shown in not attempting too many kinds at the outset. The schools are now well prepared to make additions, as well as to improve the handling of what has been taught in the past. Fort Wayne has set Indiana a good example.

INDIANAPOLIS.

The exhibition of drawings made by the public schools of Indianapolis is quite large, and, on the whole, quite satisfactory. The exhibit contains one hexagonal case of drawings to illustrate the instruction during the first nine years of the school course. At the outset drawing books are not used; the copies are furnished by the teacher on the blackboard. The drawings exhibited show the character of the work done in the schools. They consist of drawings, from flat copies, of memory and dictation exercises, and of original composition and for decorative purposes. Historical ornament receives some consideration. Only two dimensions are represented. Some of the drawings are executed in half tint. The work begins right, and as a whole is commendable; several features need to be added, and doubtless will be hereafter.

Indianapolis also exhibits an hexagonal case of drawings and an endless chain of drawings.* These consist of drawings done by pupils on the blackboard and photographed. A few of them are pictorial, but most of them are original designs formed of conventionalized foliage. These designs for decorative purposes are simple and in good taste, except that now and then one is unduly elaborate and overcrowded. A volume of examination drawings is also shown, illustrating features already described. Indianapolis has put the instruction in drawing under the general direction of a special teacher and superintendent.

LA FAYETTE.

We have from La Fayette one volume of "free hand drawings by pupils of the public schools." These drawings consist mainly of original designs for various manufactures—textile, pottery, architectural, etc. A large part are quite elaborate and pretentious, and not a few are done in colors. The object is industrial, not simply artistic and so is to be commended. The technical execution is, in the main, quite poor. The pupils should have been allowed to use mechanical aids, both for the sake of saving time and for showing how well their designs would look when properly executed. An original design is to be judged rather by the knowledge and taste which it displays than by the mode or quality of the execution. It is evident, after making due allowance for faulty technique, that the pupils in the public schools of La Fayette have not been well instructed in the fundamental elements of design. They do not seem to realize that decorative design, to say nothing of proportion and other things involved in designing the bodies of objects, is much more than a mere chance arrangement of parts; for much of the ornament presented by these drawings consists of flowers, vines, leaves—in a word, of foliage—employed without conventionalization, and simply thrown together. There is no exercise of the creative imagination. The decorative details are multiplied; breadth is lost; the lines are too numerous and weak. In some of the designs the human figure and animals appear.

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*Indianapolis displays much ingenuity in devising means to show her work. Ditto, Fort Wayne. The hexagonal case, standing erect and revolving, shows much in a small space and enables one to see at a glance the course of instruction. The endless chain is another device of the compact, portable kind.

No other public schools in the country show a more ambitious attempt in the way of industrial design. It is a laudable ambition, but should be regulated by a few simple and severe rules. Had it been thus regulated much better designs would have been secured with much less effort. It is essential that simplicity, symmetry, rythm, harmony, take the place of this imitative tendency, and reliance upon the "fortuitous concourse of atoms" in the construction of an ornamental design. Again, when designs are made for specific purposes, as these profess to be, they should show a knowledge of what is required by such purposes. Herein these designs fail. The simple truth is that La Fayette has attempted too much at the present stage of her progress in drawing. But this is a hopeful sign; it shows she has the disposition to do; and with the disposition she will soon find the way.

La Fayette also exhibits one hundred and forty-four original designs arranged in a revolving hexagonal case of glass. These are by pupils ranging from the fourth year to the ninth year, inclusive, of the school course. Most of the designs from the eighth and ninth years are done in colors, and are for linens, calicoes, cups, and saucers. They are not as ambitious as those already described, but they exhibit the same faults in great abundance.

There is shown an endless chain of photographed blackboard drawings, similar in character to the ones of which mention has been made. The first class in the high school submit a volume of drawings in botanical analysis, the flowers being drawn in colors, for scientific instruction.

MUNCIE.

The high school of Muncie submits one volume of drawings executed from printed copies. There is much expenditure of effort upon copies, some of which are good, some bad. The copies are printed on paper that is divided into minute squares; these copies are reproduced by the pupils on other paper that is similarly divided into minute squares. All measurements are therefore made for the pupil. This is an extreme application of the stigonographic method, which is of so questionable utility, even in the case of the youngest children.

TERRE HAUTE.

There is a single volume of colored drawings of shells, fishes, flowers, insects, from Terre Haute. It is not stated whether the drawings were done from the objects or from prints, nor by whom. A few photographs of simple blackboard drawings are also shown.

STATE NORMAL SCHOOL.

The Indiana State Normal School submits one volume of drawings. These drawings, however, consist of five exercises indefinitely repeated. Hence there is not enough to show that any rational, systematic course of instruction is produced in the school. The comparative skill of the different students might have been well enough shown by such a variety of drawings as would have illustrated at the same time the different steps in the course of instruction; but the little shown is good. There is not only drawing from flat copies, but the students are exercised in memory and dictation drawing, and in original composition. Besides free hand work, they are also exercised in geometrical drawing with instruments.

CONNECTICUT.

NEW HAVEN.

Five large volumes of drawings exemplify the drawing instruction in the schools of New Haven. The work exhibited is all free hand. First straight lines are drawn and divided. Then follows the drawing of two dimensions, geometrical and ornamental forms being represented. In this connection some of the principles of decorative design are taught. The pupils learn how to conventionalize natural plant forms, and are exercised in original decorative design. The arrangement of the ornamental forms is largely bilateral. No time is wasted on half tint. The pupils are exercised in proportional enlargement and reduction. Next the three dimensions are drawn, and the pupils learn to work directly from the solid. But there is nothing to show that the drawing from the solid in the high school is pursued in any systematic order. Too many of the drawings are of the same object; the gradual advance of the pupils is not shown. In the case of the drawings presented the literal form of the object is generally well rendered perspectively, but the light and shade is defective.

One of the exhibited volumes is filled with drawings that were done at home by the pupils of the high school. Another is filled with drawings that were done at home by pupils of the lower grades. The drawings are of a miscellaneous character. There is a touch of independence about home drawing which makes it specially valuable to a certain extent.

The drawing books used by the pupils in the New Haven schools consist simply of blank paper. When they draw from the flat, the copies from which they draw are furnished by large wall charts, or they are copies which have been placed upon the blackboard by the teacher. Thus a whole class draw from the same copy at a distance, instead of each pupil drawing from a copy of his own near the eye. The copies furnished by the wall charts are excellent; among them are sundry good examples of historic ornament.

BAD METHOD OF TEACHING.

This mode of teaching is, for several substantial reasons, quite generally condemned both in this country and in Europe. It is severe for the eyes of all pupils, but especially severe for those who are near sighted or have weak eyes. Then it is only those sitting directly in front of the chart who can see the copy as it is; for each one who sits to the right or left, the copy being viewed obliquely, is distorted. This is especially objectionable in the case of beautiful forms, as of ornament or objects. By looking at and drawing these forms the taste is to be developed, but when the forms are so viewed that they appear distorted, they cease to be teachers of beauty, and become teachers of ugliness. Thus is lost that development of the taste which is one of the chief objects of drawing. Moreover, copies furnished by wall charts must be limited to outline, and the lines must be few and heavy. Fine lines, and light and shade are out of the question, as the former cannot be seen, nor the delicate gradations of the latter be distinguished, by pupils at a distance. Again, all copies, by continuous use, are apt to become soiled, and from such soiled copies pupils should never be required to draw. The demands both of vision and of taste forbid.

All the objections that hold against wall charts hold equally against blackboard copies. But there are further objections to the latter. They require the teacher to be an expert draughtsman, and to devote much time to the preparation of the copies, since the copies ought to be as beautiful as possible. As a body the regular teachers of the public schools can never be expert draughtsmen, any more than they can be expert elocutionists or expert mathematicians; nor can they ever have the requisite time for preparing suitable blackboard copies, even if they possessed the skill. The advocates of this mode of teaching hold that drawing cannot be treated like other studies; that it cannot be successfully taught except by the living teacher to explain its principles orally and to illustrate their application by drawing before the class. Dead appliances, like books, are held to be useless, when the truth is that there is hardly any other study in which the elementary instruction can be so well given without experts for teachers, provided the pupils have suitable copies and models, and these are accompanied by a suitable printed text setting forth principles and giving specific, intelligible directions.

INTERESTED ADVOCACY OF DRAWING WITHOUT BOOKS.

The first among the advocates of teaching drawing without books are certain special teachers, who fear, perhaps, that their livelihood may be endangered if the regular teachers should attend to drawing as they do to other studies. Economy is also urged as a reason why wall charts and blackboard copies should be used in teaching drawing. There is a saving of perhaps 25 cents a year to each pupil who draws two hours a week. Multiply this by the number of pupils in a large city, and you have an aggregate saving which at once arrests the attention. But to offset this is the vastly greater loss of time by the pupils; for add the 25 cents to what is spent for blank paper and spend the whole for suitable drawing books, and the pupils would accomplish two or three times as much in the given time. Most parents will deem that the wisest economy which saves the time of their children. Americans might learn much about true school economy by studying the exhibits of school appliances made by Russia, Sweden, Belgium, and other European countries. Most boys and girls leave school so early that it is absolutely essential to do the best possible for them while they attend. The thing of greatest value is time, and yet how often it is prodigally wasted by penurious management.

And so the drawing instruction of the New Haven schools is decidedly at fault in that it makes excessive use of wall charts and blackboard copies.

The thing of greatest value is time; and yet how often it is prodigally wasted by penurious management.

RIGHT USE OF THE BLACKBOARD.

A word more about the blackboard, which the teacher of drawing can so often use to advantage. When one wishes to explain and illustrate principles, or to show the "growth of a drawing" by drawing it step by step before the class, the blackboard becomes exceedingly serviceable. For these purposes rude, rapid sketches are quite sufficient, and can be made as well by the regular teachers as by specialists. The fact that the "growth of the drawing" is seen, when the teacher draws before the class is one of the chief reasons why so much stress is laid upon the living teacher. Of course nothing could well be more absurd than to place a finished elaborate drawing in the hands of a pupil with the simple injunction that he reproduce it. He needs to know the first step to be taken, the second, the third, and so on to the end. This the living teacher is expected to show by his drawings or otherwise. But it happens that this is something which can be quite as well or better shown in the printed drawing copies, shown by printed construction lines, by thumb-nail sketches, and by verbal directions. Even in the case of light and shade different stages of progress may be readily shown by printed copies. The legitimate use of the blackboard, therefore, is simply to supplement drawing books and models.

MEASUREMENTS.

The drawing instruction in New Haven is characterized by another feature which deserves to be mentioned. The greatest emphasis is laid upon training the eye to judge of proportion, of comparative distance, and of absolute distance, as 1 inch, 2 inches. Everything is done by judgment of eye and with the free hand. As in the Cincinnati schools the pupils are at all times, forbidden to measure, but they do not, as in the Cincinnati schools, have many of the measurements made for them. Prohibition in the New Haven schools means prohibition.

The pupils begin by drawing straight lines of definite length, as 1 inch, 2 inches, and dividing them proportionally. They proceed to squares, circles, ellipses, and other geometrical figures. An equilateral triangle, for example, filled with three circles, and a square filled with four circles, drawn tangent to one another, drawn with the free hand, and so well done that it would be difficult to draw triangle, square, or circles better with instruments, indicate the character of much of the work done by these pupils. All this is exceedingly slow and laborious. Does it pay? In practical life one never relies upon the hand and eye alone for a perfect square or circle. Such practice in drawing at school is, then, only for discipline.

USELESS EXPENDITURE OF TIME.

When the New Haven pupils come to drawing ornamental forms from the flat they begin by drawing a square and dividing it into a specified number of equal small squares. This, done with the free hand, is required to be done with the utmost precision. By the aid of these squares the ornamental form is then readily drawn; for as the copy is drawn upon similar squares the pupils can with ease reduce or enlarge it proportionally, obtain the exact curve of any line, and in case of a symmetrical form make the balancing parts just alike. After the ornamental form has been drawn the squares are erased. The New Haven exhibit contains various drawings of ornamental forms executed in this manner with remarkable precision, but with great expenditure of time and serious loss in other directions. School life is altogether too brief for such a method, though it might, perhaps, be profitably employed to a slight extent.

OTHER OBJECTIONS.

But there are other objections besides waste of time to this method. The attention of the pupil is fixed too much upon drawing straight lines and dividing them, and too little upon drawing the ornamental or other form. If the latter is beautiful, as it always should be, the more the pupil looks at it the more his taste will be improved. Not only that, the best appreciation of the curves will come from comparing them with one another and not from spending so much time in looking to see where they cut across the squares. In a word, there should be the least possible distraction of the eye or mind from the study of the beautiful form itself. If squares must be continuously employed as an aid then the pupils should be provided with paper printed in squares, such as a practical draftsman would use when absolute precision in the result is required. For school purposes, however, a very few construction lines, showing the general proportions of the form to be drawn, are quite enough in any case. It should also be observed that in drawing from models and objects no use can be made of the squares. Since the thing is feasible it is certainly better that the pupil should learn a method of determining general proportions which is applicable to drawing both from the flat and from the solid.

In its treatment of proportion New Haven makes two mistakes. Undue emphasis is first laid upon proportion compared with other things. It is indeed exceedingly important, but it is not all in all. Too much is sacrificed to it. In the next place too much stress is laid upon the ability to determine absolute distance by the eye alone, as 1 inch, 1 foot, and too little upon the ability to determine comparative distance and size. Every person should have a clear idea of what an inch is, a foot, or a yard, but it is a waste of time to attempt to train the eye to determine them with precision. When absolute precision is required in the measurement of distance or in the striking of a circle mechanical aids always have been, and always will be, used. But the ability to determine comparative distance and size is essential in all drawing from the solid—model, cast, figure, etc. Even here the artist uses mechanical aids so far as he can. It may be said, therefore, that in dealing with proportion, as with all else in drawing, the ultimate application should always be kept in view; nor should the difficulties of the learner be needlessly multiplied. Discipline will be quite sure to take care of itself.

There is much about the method of teaching drawing in the schools of New Haven which is decidedly good. The results prove this. But there is also much that ought not to be imitated.

HARTFORD.

This city exhibits three portfolios of large crayon drawings, in outline, executed by pupils in three different schools. Age of pupils, about fifteen years. Some of these drawings are original compositions, but most of them were executed from excellent flat copies of ornament. The copies were small and intended for work with the pencil point. They were proportionally enlarged until 1 or 2 feet across, as here shown. Only two dimensions are represented, and there is no tinting. Therefore, but little time, comparatively, was required for the execution of these drawings. The lines are firm and even.

These drawings illustrate, in part, what can and ought to be done with the crayon in the upper classes of grammar schools and in the lower classes of high schools. In these classes there needs to be some practice with the crayon, to say nothing of the stump, in order to acquaint the learner with the use of an additional vehicle of expression, to accustom his eye to larger proportions, to give him a firmer, bolder touch and more freedom of movement. Uncleanliness, to mention nothing else, forbids the use of the crayon and the stump in the lower classes of the public schools. Their exclusive use in the upper classes is to be strongly deprecated. The simple truth is that the pupil should, in proper season, learn to handle all kinds of materials. This gives a broader and a better discipline, and oftentimes greater facility in execution, as the same material is not equally good for all purposes. But beyond question the common lead-pencil is the first thing to use in public schools and the main thing throughout the whole course.

These three portfolios of drawings from the Hartford schools are the only ones of the kind sent to the Exhibition by American public schools.

Hartford also exhibits nine volumes of drawings from intermediate and grammar schools. These are outline drawings of ornament and objects from prints; also original decorative designs. Many of the prints used for copies are not of the best, while the original designs betray very little knowledge of the first principles of decorative art.

The Hartford high school exhibits a volume of drawings from casts and models of a commendable character. So far as literal form is concerned, the perspective rendering is fair, but the shading is anything but correct. One cannot help thinking that the drawings were executed in a room where the light is subject to constant variation.

There are no drawings from the primary schools, and nothing to show the different stages of the instruction, except so far as indicated by results.

It is evident from the whole exhibit made by Hartford that the instruction in drawing proceeds upon no well defined plan. Too little time is devoted to the subject, and too much of that little is wasted in vagaries. Some of the instruction is good, and some decidedly bad; the results correspond.

STATE NORMAL SCHOOL.

This school, located at New Britain, submits four bound volumes of drawings.

1. There is one volume of free hand drawings reduced from flat copies. A single form is drawn, that of a pitcher. It is in outline. The students, of an average age of nineteen years, have drawn for half a year with two lessons a week. The average time spent by them in executing these drawings was more than four hours. One-eighth of this time would have sufficed had the students in earlier life received a little suitable elementary instruction in drawing. If the students had submitted different drawings, one would be better able to judge of the course of instruction. In such an exhibition as this it is not essential to determine critically the comparative excellence of individual students.

2. There is a volume of drawings by students whose average age is nearly twenty, and who have drawn one year, with two lessons a week. Some of the drawings are original compositions made from given elements—parts of the convolvulus—to fill a geometrical space. No tinting. These designs were executed with the free hand alone, and, though they are not elaborate, the average time which the students spent upon them was about ten hours. A great waste! Better results might have been secured in two hours by the employment of such mechanical aids as practical draughtsmen use. An original composition is to be judged by the knowledge and taste which it displays and not by the difficulties overcome in its technical execution. The same class also exhibits outline drawings of a bracket reduced from a printed copy. Average time spent on these about seven hours.

3. There is a volume of original compositions by students whose average age is nearly nineteen years and who have drawn one year and a half with two lessons a week. For these compositions the students themselves selected the elements, going to the greenhouse for the plants from which they conventionalized the parts used. Indeed, they received no help whatever from the teacher, and so the results are all their own. The average time spent in executing these drawings was about seven hours; and yet they are in simple outline and their parts are symmetrically arranged to fill a given space, and so the time might have been easily abridged by the use of mechanical aids.

Sending students to nature for *motifs* for their designs is an excellent thing; but they should know how to use them properly when they have once got them. The designs under consideration show little respect for even the simplest principles of decorative art. Nothing appears to be understood, except that the natural forms should be conventionalized and the parts symmetrically repeated. There is a striking lack of unity, breadth, repose, of just proportion of ornament to background, and little or no heed is given to the organic growth of the plants used.

4. There is a volume of original decorative designs made from given elements. Drawing done wholly with the free hand. Average age of students nineteen, and they had practiced drawing one-half year with two lessons a week. Though the designs consist simply of straight lines symmetrically arranged about a centre, yet the average time spent upon their execution was about six hours. The designs themselves are hideous.

The exhibit, even when considered as a whole, shows only the results attained, and not the successive steps in the course of instruction. It is clear, however, that the general plan of the instruction is good, so far as it goes, but in carrying out the plan there are very serious defects, as, for example, in dealing with the principles of decorative design. To the general plan of instruction should certainly be added drawing from the solid.

The teacher of drawing in the New Britain Normal School must be well qualified, if one may judge from exhibited specimens of her own work, to give instruction in perspective and in model and cast drawing.

MYSTIC.

The high school of Mystic presents a portfolio of shockingly bad drawings. They are pictorial, and from the flat.

NEW HAMPSHIRE.

MANCHESTER.

Drawing was introduced into the high school of Manchester, as an optional study, in 1873, but was made compulsory in 1874. This school makes quite a varied and creditable exhibit of regular school work in drawing. The instruction begins with two dimensions, and geometrical forms, ornamental forms, and diagrams of artificial objects are drawn. The pupils are exercised in enlargement, reduction, and original design. Some specimens of instrumental perspective are exhibited—problems, and application of same. There are some pictorial drawings from poor flat copies, and some drawings in outline of animals, and the human figure from flat copies of quite good quality; also some heads in light and shade. Various specimens of machinery drawing are exhibited, while there are flowers drawn in color, and quite a number of drawings of geological specimens very well executed. On the whole the exhibit is very creditable; it shows that most of the instruction is rational and systematic, having a well defined object in view. Some of the work properly belongs in the lower grades; but as it is not yet done there, it has to be done in the high school, since instruction must begin at the beginning whatever the age of the pupil.

NASHUA.

The Mount Pleasant grammar school, Nashua, exhibits six bound volumes of free hand drawings. These drawings were done as part of the regular school work. They are all from flat copies, the most of them very diminutive. The objects represented consist of hats, caps, pails, cans, drums, ox yokes, knives, coffee pots, leaves, flowers, shells, sprigs, toadstools, acorns, insects, dilapidated fences, leantos, etc. The copies themselves are badly drawn and full of misrepresentations of fact. Under such circumstances good work could not be expected of the pupils, required simply to reproduce what was placed before them.

The Franklin grammar school exhibits seven volumes of drawings, illustrative of regular school work by pupils having the average age of thirteen years. The work consists wholly of drawing from flat copies in outline, the copies representing only two dimensions, and being neither the best nor the worst. Very much of the work is done for the pupils by the printer, so that the former are but slightly exercised in proportion. It will be seen that the instruction covers very little ground. The execution is bad, the lines being very irregular and ragged.

Nashua seemed to have made quite a serious attempt to begin instruction in drawing, but what an unfortunate beginning!

RHODE ISLAND.

NEWPORT.

The chief exhibit of drawings from Rhode Island, and the only one that shows a systematic plan of instruction, is made by Newport. This city sends six volumes of drawings, besides some mounted specimens, which illustrate the work done in the primary, intermediate, and grammar schools. Drawing having been taught in these schools for only little more than a year, the work is yet limited to free hand representations of the three dimensions. Some of the drawings are from flat copies, others are original compositions. Many of the drawings are not sufficiently well executed; this defective execution being doubtlessly due in part to the smoothness of the paper used. Some of the original compositions show glaring violations of the organic growth of the leaves and flowers employed in making them. But most of the drawings exhibited were done by the pupils at their regular school examinations, and so had not the advantage of the teacher's criticism. It is to be further noted that Newport submits several volumes of written examination papers in drawing. These show how the pupils are trained in principles and definitions. On the whole the exhibit made by Newport is creditable; it indicates that the work has been rightly begun and that fair progress has been achieved.

WOONSOCKET.

The high school of Woonsocket exhibits a few specimens of drawing. They are all of the landscape order and from flat copies. They are not accurately executed. Profitless work for pupils who, like those of this school, have had no suitable elementary practice in drawing.

PROVIDENCE.

Next to nothing appears to have been accomplished by this city in drawing, though the study has had a place in the public schools for several years. Two grammar schools, the Thayer street and the Benefit street, exhibit a few dozen quite well executed specimens of drawing. Those from the former school represent two dimensions and illustrate two or three principles of decorative design; those from the latter school represent flowers and animals, the drawing of which is not very profitable work for pupils of such a school. That is the extent of the drawing exhibit made by Providence. There is nothing to indicate that this great manufacturing city provides any rational, systematic instruction in drawing in its public schools.

THE STATE NORMAL SCHOOL.

No exhibit of drawings is made by this school. The schedule of instruction, which is submitted, states that the students receive fifty lessons in drawing during their 2 years' course. The character of this very limited amount of instruction is good, if one may judge from the statements of the schedule.

MAINE.

PORTLAND.

Among the New England States, Maine, next to Massachusetts, makes the most satisfactory exhibit of drawing from public schools. And Portland makes the largest display of any city in the State. Its exhibit, however, is almost wholly confined to work by pupils of the grammar grade. There is not enough to indicate what is doing in the primary and high schools, if the pupils in these grades are really doing anything of consequence. Nearly all the drawings exhibited were made from flat copies, and represent only length and breadth. Memory exercises, dictation exercises, and practice in original design appear to form no essential part of the instruction. Samples of the books used, and as filled by the pupils, are shown. Many of the printed copies in these books consist of ornamental forms. This is an excellent feature; but the selections are such that they fail to give any distinct notions about the different styles of ornament. Some of the copies present gross violations of simple fundamental principles of decorative design, and so are calculated to teach error instead of the truth. One marked characteristic of the Portland instruction is found in the fact that the pupils are provided with printed construction lines to help them in copying their exercises, the printed forms in their books. This enables them to do their work more quickly, and to show a better result in a limited time. It will be observed that this resembles the method practiced in the Cincinnati schools, while it is just the reverse of the method that is so vigorously followed in the New Haven schools. So the pupils obtain too little training in proportion; but they have more time for lining in their work — the lines in these drawings are very satisfactory indeed — and they get sooner through their books. To give the learner so much help where he is reproducing printed copies is a vicious practice. The use of mechanical aids in executing original designs is an altogether different matter, as it is then the chief purpose to exercise the inventive faculties, not to increase the manipulative skill.

Though drawing has been taught in the Portland schools for several years, the instruction as yet is sadly deficient in breadth, while it is lacking in clear cut, positive character. It has hardly got beyond copying from the flat. A very few original compositions, of a decorative character, are submitted. Some are right, others wrong, in arrangement. The activity which Portland manifests in drawing must, by and by, lead to much more commendable results.

AUGUSTA.

The most satisfactory exhibit of drawings from the public schools of Maine is made by the city of Augusta. Yet drawing has been taught in the Augusta schools only one year, the remarkably good results being attributable to two things: A rational course of instruction was adopted at the outset; then a competent person was employed to instruct the teachers and to surpervise the work in all the schools. By this plan more has been accomplished in a single year than is accomplished in five years by some of the so-called economical plans, and that, too, without requiring the pupils to devote any more time to drawing.

Though the Augusta exhibit is not large, yet it is such that one can readily learn from it the character of the instruction from the lowest primary grade to the high school. Every step is shown, and the logical connection of the whole is clearly brought out. With the exception of a few drawings of the human figure in outline, made by pupils of the high school from flat copies, the drawings from the different grades represent but two dimensions, and in the main are of such a character as to exemplify the simpler principles of decorative design. This is as it ought to be, since the work done in the high school should be provisional—that is, much like the work done in the lower grades until pupils suitably instructed in the latter have entered the former. In the exhibit are drawings from printed copies, from dictation, from the blackboard, from memory, and numerous original compositions. The latter show quite an intelligent appreciation of the principles of decorative design. Some of the original compositions from the grammar and high schools are finished in colors, as designs for tiles, wall papers, oil cloths. The combinations of color are quite agreeable. The boys and girls who have been thus exercised in decorative art will be better judges of such and similar articles all their lives.

Having done so much with two dimensions, and done it so well, Augusta can now add drawing from the solid and from nature; also drawing with instruments.

PEMBROKE.

The high school at Pembroke exhibits eighteen large original designs done in colors by as many different pupils; also a few well executed drawings in instrumental perspective. The designs are for carpets, wall papers, stenciled and painted ceilings, encaustic tiles, table cloths. They are deserving of praise both for the forms of the pattern, and for the combinations of color. They are the best designs from the public schools of the State. Only two dimensions are represented, and there is no intricate, pretentious elaboration of the ornament. The principles of decorative art are violated in but three or four instances. One of the most glaring violations is found in a design for a painted ceiling, which combines the Greek anthemion, the Roman acanthus leaf, and the most common feature of arabesque ornament. Some of the manufactured products in the Exposition show like mixtures of ornament; nevertheless it is a serious fault thus to mingle different decorative styles. It is certain to displease intelligent taste. The Pembroke designs are all adapted to the positions they would occupy were they applied.

This is the whole of the Pembroke exhibit. There is nothing to show whether drawing is taught in the lower grades, or what the course of instruction that has led to the results shown. The exhibit, therefore, fails to teach as it might. It simply shows what excellent results may be obtained in country schools in two years (that is the length of time drawing has been taught at Pembroke), when the teacher takes hold of the work in earnest. It is certain that the boys and girls in the Pembroke high school have learned enough in these two years of drawing, color, and decorative art to prove of constant service and delight to them in various ways. What has been done in Pembroke can be done in thousands of similar country villages throughout the land.

ET CETERA.

Some other cities and towns of Maine make slight exhibits of drawing, as Lewiston and Belfast. The little they do show indicates work mainly in the right direction; but it is so little that it is hardly worth the mention. Neither of the State normal schools sends drawing, though drawing is taught in both. The law of the State authorizes the teaching of drawing in all the public schools, but does not make it an obligatory study, as it should. The law also authorizes towns having 5,000 inhabitants to maintain free evening drawing schools for adults, but does not make the requirement compulsory, as it should.

NEW YORK.

NEW YORK CITY.

The public schools of the city of New York exhibit no drawings; indeed they exhibit nothing whatever. But the woman's art department, Cooper Union, makes a display of drawings which illustrate a course of free instruction for those who desire to prepare themselves to teach drawing in public schools. The course is comprehensive, rational, and practical. The drawings exhibited show good technical execution, and it is evident that the students have an intelligent understanding of what they are about. The course of study produced in this school conforms to that of the Massachusetts State Normal Art School, but does not yet embrace the more advanced subjects taught in the latter school.

SYRACUSE.

For three years drawing has been systematically taught in the public schools of Syracuse under the special supervision of one who appears, according to the testimony of results, to be admirably qualified for the responsible work. A syllabus* of the whole course of instruction accompanies the exhibit of drawing. From this it is seen that the course embraces nearly all that ought to be taught in the different grades of the public schools. The drawings exhibited prove that this is not simply a proposed course of instruction for the primary, junior, and senior grades, and for the high school and normal class. It has been put into successful operation, except the parts which relate to projection, building construction, and the draughting of machinery, things which will be attended to in due season. The wonder is that so much has been accomplished in three years.

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*Syracuse presents the following syllabus of the course of instruction in drawing in her public schools:

Free hand drawing.—(1) Straight lines and their division. (2) Geometrical forms. (3) Combination of straight lines. (4) Dictation exercises. (5) Memory exercises. (6) Elementary curves. (7) Combination of straight and curved lines. (8) Repetition and symmetry. (9) Elements of design. (10) Outline of objects from flat copy. (11) Outline of historical forms. (12) Conventionalization. (13) General principles of design. (14) Natural forms from copies. (15) Botanical analysis for design. (16) Historical ornament in color. (17) Applied design.

Instrumental drawing.—(1) Problems in plane geometry. (2) Geometrical design. (3) Projection. (4) Building construction and machinery drawing.

Perspective drawing, instruments.—(1) Problems (representation of geometrical solids). (2) Applications.

Model and object drawing, free hand.—(1) Outline of object from flat copy. (2) Outline from model. (3) Outline of foliage from nature. (4) Model in half tint. (5) Model shaded. (6) Cast in outline. (7) Cast shaded. (8) Object shaded.

The very youngest pupils draw on slates without stigmographic or other aids. They depend wholly upon the eye and the free hand. The slates exhibited show that excellent results, in proportion and in direction of line, are secured. Slate work is followed by similar work on paper. With the advancement of the learner the work not only increases in difficulty, but in comprehensiveness. The representation of two dimensions is followed by drawing from models and from the cast in light and shade, and by the drawing of historical ornament in colors. The original designs for decorative purposes are intelligently constructed; there is nothing of the mere haphazard about them. The technical execution of the drawings is excellent throughout.

The results attained by Syracuse show that it is true economy to adopt a broad, rational course of instruction at the outset, and then to put some suitable person in general charge, whose business it shall be to teach the regular teachers and to supervise the whole work. Syracuse has set New York a good example. What she has done other cities can do; but whether any other part of the State has done better or worse, there is nothing in the Exhibition to show. The school work sent to Philadelphia by Syracuse comprises the whole educational exhibit made by the public schools of the State of New York. As the law makes drawing a compulsory study in the public schools of the State, it is to be hoped that Syracuse has much company in her good work.

NEW JERSEY.

THE PUBLIC SCHOOLS.

Some thirty or forty volumes of drawings are exhibited by the public schools of New Jersey. A large part of the towns in the State are represented, but there is nothing to indicate that a systematic course of instruction is pursued except in three or four instances. Indeed, one gets the impression from an examination of the exhibit that in nearly all the schools of the State drawing is not a regular, required study, but that the pupils were directed to do the best they could for the present occasion, each drawing whatever he chose. Much time was evidently expended on the preparation of the drawings exhibited, nearly all of which are from flat copies, and flat copies of the most miscellaneous variety, such as one might obtain from illustrated papers and books. These are landscapes, animals, birds, human figures, houses, bridges, vessels, et cetera, all done in light and shade. The exceptions to these ambitious pictorial efforts are very few. For an occasional exercise or pastime such drawing may not be specially objectionable in the public schools; but for steady work it is not only useless, it is thoroughly demoralizing. Since the drawings exhibited by all the schools, with the exception of three or four in which a right beginning has but just been made, are of the general character described, it is useless to speak of the schools in detail.

New Jersey should preserve this exhibit of drawings in order to contrast it with the exhibit she will be able to make ten years hence; for in educational matters New Jersey is altogether too progressive to remain content with what her public schools are now doing in this vital matter of drawing.

STATE NORMAL SCHOOL.

The drawing taught in the New Jersey State Normal School and in its model school forms a striking contrast with the drawing in the common schools. No normal school in the country gives better instruction in drawing, if we may judge from the exhibits at Philadelphia, than does the model school at Trenton. But as yet this good instruction seems to have had but little or no influence upon the work in the common schools.

The exhibit made by the normal school and its model school shows rational, systematic instruction in several departments of drawing. There is plane geometrical, or linear, drawing with instruments. There is instrumental, or linear, perspective, some of the drawings being quite intricate and exceedingly well done. There are some specimens of mechanical drawings from the model school, but nothing to indicate that the students executing these drawings had previously been taught orthographic projection, which underlies all mechanical drawing. There is free hand drawing of two dimensions from printed copies, a large part of these copies consisting of good ornament. In this connection the students are exercised in original compositions.

for decorative purposes. These original compositions conform to recognized principles of design, both in the conventionalizing of natural forms and in the subsequent arrangement of the forms. The proper use of half tint is taught, and so it is not applied simply to please the eye where it could be of no practical service. In a word, the original designs, or compositions, from the Trenton normal school are remarkably good, whether one considers the thought and taste which they manifest or their technical execution. Much time was evidently saved in their execution by the employment of mechanical aids. There is also free hand drawing from models and objects, this being preceded, as it should be, by drawing of the three dimensions from printed copies. Finally, there are some quite good drawings of the figure, in outline, from the flat. Such is the general character of the drawing instruction in the State Normal School of New Jersey. But little needs to be added to it. If the school continues as it has begun the beneficial influence of its instruction will soon be felt throughout the State.

PENNSYLVANIA.

PHILADELPHIA GIRLS' NORMAL SCHOOL.

The drawings exhibited by the Girls' Normal School of Philadelphia includes: (1) Samples of plane geometrical drawing with instruments; (2) samples of linear perspective with instruments; (3) samples of original designs for decorative purposes, some done with the pencil alone, others in colors; (4) samples in light and shade from flat copies. The last are fairly executed. The original designs are intelligently composed, and their technical execution is excellent. The whole exhibit is decidedly creditable, showing a definite purpose and good teaching. Certain other most essential features need to be added to the course, as model and object drawing, cast drawing, and drawing from nature, with studies in historic ornament and decorative styles. These additions will undoubtedly be made ere long.

SHIPPENSBURG NORMAL SCHOOL.

This school exhibits a few drawings, mostly original designs, involving the representation of two dimensions only. The instruction is quite good so far as it goes, but there is not much of it.

BLOOMSBURG NORMAL SCHOOL.

This school exhibits a few samples of pictorial drawings from the flat of a "model and object" character. It also exhibits a few framed drawings of interiors, and one drawing of the normal school building—done from the objects themselves. This, it will be seen, is far from what the instruction should be.

MILLERSVILLE NORMAL SCHOOL.

This school exhibits two volumes of drawings done by students. The drawings in one volume are devoted mainly to representing two dimensions only. The forms drawn are principally those of ornament. There are exercises in drawing from printed copies, from memory, and from dictation; also exercises in original design. The latter show numerous and often very flagrant violations of the principles of decorative art. More rational study evidently needs to be given to these principles. The volume also contains specimens of linear perspective. The drawings in the second volume show less method, less adherence to a definite plan; the results are, consequently, less commendable. There is also exhibited a number of framed drawings done by the students. These include original designs for decorative purposes; also drawings of the human head, of human figures, and solids, which are done in light and shade, mostly or wholly from flat copies. Two samples of original designs, done in colors, for woven fabrics, are also shown, and two samples for machine drawing.

So it is clear that the drawing instruction in the Millersville Normal School takes a broad range, embracing nearly everything which it is essential to teach in any grade of the public schools. Historic ornament should receive more consideration as should geometrical drawing and drawing from the cast and from nature. The exhibit is not sufficiently extensive and minute to show whether a rational and progressive plan of instruction is pursued throughout; but one concludes from what is shown that such is the case. There should be more thorough teaching of some things, and a steadier purpose controlling the whole. As this school has done so well one cannot refrain from urging it to do better. The other normal schools would find it to their advantage to take a lesson from Millersville in the matter of drawing.

TITUSVILLE.

Titusville exhibits one volume of selected drawings done by teachers and pupils. These show no definite, systematic course of instruction. Some features are good, others bad. If one may judge from what has been accomplished without a good course of instruction, the teachers of Titusville have the will and the ability that would give excellent results with a definite, rational plan of work.

ERIE.

This municipality submits three volumes of drawings to illustrate the work done in the different grades of her public schools. The drawings, which represent in the main two dimensions only, consist mostly of original compositions for decorating flat surface. The exhibit is not sufficient to show that a carefully graded course of instruction is followed. Time enough is not devoted to the subject for excellent technical results. Indeed it is stated that no great prominence is given to drawing. The exhibit, however, is sufficient to show that, with suitable attention given to the study, excellent results might easily be secured. Having made so good beginning in her public schools Erie should press forward.

Erie sustains a free evening drawing school. A volume of drawings from this school, fairly executed, is shown; but they are not so arranged as to make it evident whether or not a systematic course of instruction is followed. Several framed drawings from this school are also exhibited.

POTTSVILLE.

The drawing instruction in Pottsville has no definite aim. One thing seems to be regarded as good as another. Such is the testimony of the single volume of drawings exhibited — a mixture, but in the main pictorial, and all bad.

HYDE PARK.

Much time appears to be devoted to drawing in Hyde Park, but the results are altogether unsatisfactory Six framed drawings done by pupils in the high school; also four portfolios of drawings. All are badly executed. The flat copies placed in the hands of the pupils are themselves badly executed and have no definite aim. Hardly anything but evil can come of such instruction in drawing.

READING.

The drawing exhibit made by Reading consists of some specimens from the high school, mostly pictorial and fairly done. Nothing from the other schools.

WILLIAMSPORT.

The work in drawing done by Williamsport is not to be commended. The drawings exhibited are of the usual bad pictorial variety.

YORK.

Drawings are submitted by York. They hardly deserve a mention.

ALLENTOWN.

The few drawings exhibited by Allentown present nothing worthy of note.

WEST CHESTER.

A single volume of drawings from West Chester shows the result of one year's instruction in the primary schools. The work in the high school is illustrated by twenty framed drawings, in light and shade, of the human head, of flowers, and landscapes. The execution of these is much better than is usual with similar school drawings. On the whole, the display hardly deserves to be named. Still less does the single volume of drawings exhibited by Chester merit any notice.

EASTON.

The method of teaching drawing in the public schools of Easton is very well shown by the six volumes of drawings that are exhibited. From these it is seen that the work consists almost wholly of copying from the flat, partly with the free hand, partly with instruments. The drawings, in the main, represent two dimensions only; when objects are drawn it is as diagrams, without perspective, without light and shade. Ornamental forms constitute a leading feature of the copies. So far commendable. Instruction in the primary schools, however, covers but little ground and shows no definite aim. Something of the same defect appears in the instruction of the higher grades; enlargement and reduction, memory and dictation exercises, and practice in original design are too much neglected throughout the course; in the free hand books used by the older pupils a large part of the work is done for the pupils by the printer, so that they get too little practice in drawing while going through the books; no good, intelligible instruction is given in the principles of decorative design. This of the free hand work.

The books for plane geometrical drawing have so many lines printed that the learner loses quite one-half of the practice which he ought to get while going through the books. This is a serious matter, as one of the main objects of geometrical drawing, at the outset, is to train the learner in the use of instruments, which cannot be done without practice. It should also be observed that the learner is obliged by the printed lines to draw the figures on so small a scale that accurate results, an essential aim in this kind of drawing, are rendered much more difficult of attainment.

Easton manifests a desire to do good work in drawing, and is to be commended for what she has already accomplished. She has but to eliminate some faults from her present course of instruction, and add some new features, when she will be able to show as good results as are to be found anywhere.

ALLEGHENY CITY.

Three volumes of drawings are exhibited by Allegheny City. The drawings are of a decidedly mixed character, but nearly, if not quite, all executed from flat copies. The larger part are in light and shade, and consist of landscapes, animals, the figures, flowers, fruit, birds, sea views; all badly executed, though much time was evidently spent upon them, and so worse than wasted. A small part of the drawings represent two dimensions only, and embrace commendable samples of ornament; but the whole appears to be an incongruous mixture, as if an attempt had been made to engraft some good instruction upon much that is vicious, when the latter should be at once discarded. This shows timidity or a lack of knowledge. It may be added that many of the drawings are executed on cardboard, whose surface is too hard and too smooth. Allegheny City ought to do vastly better than now with drawing, or drop it altogether.

PITTSBURGH.

The drawings exhibited by Pittsburgh are mostly found in sundry large volumes containing other school work. The sheets on which they are executed are 26 by 22 inches, too large for school children to draw upon. Then the paper is too smooth for the pencil, and so most of the drawings have been done with pen and ink, altogether unsuitable materials. One could not easily devise a more objectionable plan for showing the skill of pupils in drawing. No doubt a vastly better exhibit might have been made with one-half the effort on the part of the pupils.

There are drawings from printed copies, dictation drawings, and original designs for decorative purposes. Only two dimensions are represented. The display of actual work is meagre, and not good, though it is enough to indicate clearly that the instruction is, in the main, of the right sort, but is not carried far enough. It is impossible to determine from the exhibit the exact daily progress of the learner. A series of questions for written examination in primary schools, and another series for a similar examination in the grammar schools, throw light upon the character of the instruction.* It is evident, from these questions, that the pupils are well grounded in some of the elements of the geometry which must prove of service to them in other studies and in many ways after they quit school. The questions are, in the main, correctly answered. The questions for the grammar grade cover too much of the ground covered by those for the primary grade. Perhaps this is due to the fact that drawing has not been long taught in the public schools of Pittsburgh, and they are still doing work in the grammar grade which should be done below. With the progress already made the questions for the grammar grade should embrace principles of decorative design and historic ornament. The written examination of pupils in drawing, as illustrated by the Pittsburgh exhibit, is worthy of imitation everywhere. Drawings are not enough to prove that elementary instruction is good, that the pupils thoroughly understand what they are about. But practice with the pencil must not be sacrificed to the memorizing of definitions. The latter alone are of little value.

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*The following is the list of questions for written examination in the primary schools: (1) What is drawing? What is a point? (2) What is a line? How many kinds of lines are there? Describe a right or straight line. A curved line. Of what does a broken line consist? (3) How are straight lines classified with regard to direction? Describe each kind. Where should one begin to draw a vertical line? A horizontal line? What are parallel lines? (4) What is an angle? Describe the different kinds of angles. (5) What is a triangle? Describe the different kinds. From what are the first three named? The last three? (6) What is a square? What is the diameter of a square? What is its diagonal? What is an oblong? A rhombus? A rhomboid? (7) What is the difference between an oblong and a square? (8) Describe a curve. What is a simple curve? Give an example. (9) What is a circle? A semicircle? A quadrant? (10) What lines should be drawn first, the longest or the shortest, the left or the right?

The following is the list of questions for written examination in the grammar grade.

In addition to what has already been described the same schools, or a part of them, exhibit a few pictorial drawings, which are of the usual school merit, or rather demerit. Then there are various framed drawings from the high school, some of machinery, some of the human head, some of ornament in relief, and others of animals and fruit. The execution is no more than fair, perhaps hardly that.

It is clear from the exhibit which Pittsburgh makes that she has begun with right instruction in drawing. It is, however, only a beginning. Essential features remain to be added, and the work needs to be carried forward with a resolute hand, and not with the timidity here shown.

DISTRICT AND COUNTY EXHIBITS.

The exhibits made by the towns, or political corporations smaller than cities, are very meagre indeed; hardly worth making a note of. The country schools of Pennsylvania, like the same schools elsewhere, are, as yet, little inclined to take up drawing at all, and where they do they are apt to run to picture-making. Tamaqua makes the best drawing exhibits, both as regards the plan of instruction and the quality of the technical execution.

MARYLAND.

BALTIMORE.

Years ago the city of Baltimore was somewhat conspicuous for the efforts made in behalf of art education. But after a while there came a relapse. The new movement has however, been felt and the city begins this time by making drawing a compulsory study in the public schools. The new study is just getting fairly started. To illustrate what is doing two portfolios of drawings executed by pupils in the primary and grammar schools, in the girls' high schools, and in Baltimore City College are displayed. The drawings from the primary and grammar schools are of the same general character. They are simple line drawings of ornament and of objects. Only two dimensions are represented. The technical execution is good. So far as it goes the work is in the right direction. The western and eastern female high schools exhibit original designs, made from conventionalized leaves and flowers, for decorative purposes. None of these compositions are pretentious, which is much to their credit. They are not, however, wholly free from violations of the laws of decorative design. These schools also show work from models and casts in outline and in light and shade; while drawing of relief, ornament, and the figure is represented. The western high school shows the most elaborate studies of the figure executed from the cast. Take the " Rip Van Winkle" for example.

Of the instruction in the primary, grammar, and high schools, as here illustrated, it must be said that it is suitable in character; that it is rational and progressive. Much more needs to be made of what has already been undertaken, and various new features will have to be added before the instruction becomes sufficiently comprehensive. Only a beginning, though a good one, has been made.

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(1) What is drawing? What is a line? (2) Describe the three kinds of lines. What are parallel lines? Classify straight lines with regard to direction, and define each. (3) What is an angle? Describe the different kinds. How are angles measured? What is a triangle? Describe the different kinds. What is the difference between an equilateral and a scalene triangle? (4) What is a square? What is the diameter of a square? Its diagonal? What is a rhombus? A rhomboid? An oblong? (5) What is the difference between a quadrilateral and a rectangle? (6) Describe a simple curve. Give an example. Describe a compound curve. Give an example. What is a circle? (7) What is a plane? What is a surface? (8) What are concentric figures? Eccentric figures? (9) What is the ogee? How should a curve run into a straight line for the junction to be beautiful? (10) What is meant by equal and similar, when applied to figures? What is the difference between the mathematical and the popular use of the word circle?

The specimens of drawings done by the boys in Baltimore City College, which are here exhibited, consist almost wholly of reproductions from flat copies in light and shade. There are landscapes, trees, rocks, dilapidated houses, fences, bridges, carts, etc. The boys compelled to do such work are truly to be pitied. There is nothing to indicate the course of instruction, if really there is anything of the sort.

THE STATE NORMAL SCHOOL.

The exhibit made by this school consists of dictation and blackboard exercises of perspective drawings with instruments, and of original decorative compositions. There is nothing pretentious about the latter. So far as it goes, but it has not yet gone far, the instruction is of the right character; various features need to be added.

WASHINGTON, D. C.

The capital of the nation exhibits nine bound volumes of drawings, which illustrate the work done in the different grades of her public schools. There are drawings from flat copies, greatly enlarged; original compositions for decorative purposes; outline drawings of models and natural objects, with a few attempts at light and shade. The whole exhibit is deserving of praise; it shows a rational plan, which, so far as it goes, is well carried out. Other features can be readily added. The students of the normal school, where the course covers but one year, and none of the students had been previously instructed in drawing, make a decidedly commendable exhibit. With such a good start in the right direction, Washington should soon be able to do all that is desirable for drawing in the public schools.

MICHIGAN.

DETROIT.

The Washington, Duffield, Everett, Barstow, Tappan, and Houghton schools present a few drawings. There are, perhaps, not more than a hundred specimens, but they are quite enough to show that drawing is very poorly taught in these school. The Duffield school alone shows any attempt to work in the right direction. The drawings presented by the other schools are from flat copies of a most melancholly sort and are executed in a most melancholly manner. There are boxes, tubs, stumps, birds, animals, scarecrows, tumbledown fences, castle ruins, and more which it would hardly be lawful to mention. It is astonishing that a city like Detroit should have consented to make such a childish exhibit of work in one of the most essential studies of a common school education.

EAST SAGINAW.

A prefatory note to the East Saginaw exhibit states that drawing began to be taught in the public schools of that city in 1873. Two volumes of drawings are exhibited, showing the quality of the instruction. Both the general character of these drawings — they are many and various — and their manual execution must be severely condemned.

The first volume shows that the pupils are long exercised in drawing two dimensions; the drawings, however, are of such a character as to make them of the least possible value in the way of training the taste. Various homely objects are drawn as diagrams, but with only a distant approach to accuracy. The pupils are exercised in what is called "inventive drawing." This appears to be nothing but a mere chance arrangement of lines, if one may judge from the numerous "inventions," by pupils seven to thirteen years old, which this volume contains. These "inventions" consist almost wholly of the symmetrical arrangement of straight lines about a centre. Nearly every principle of design, applicable in such arrangement, is constantly violated.

Most of the drawings in the second volume have the same general character as those in the first, but are more pretentious. There is added the delineation of natural objects from small printed copies. The natural objects consist of flowers, shells, insects, crabs, frogs. A naturalist would be shocked by the scientific blunders of representation, no less than by the badness of the drawing.

There has evidently been a large expenditure of time and labor upon these drawings. With a good course of instruction East Saginaw would have had excellent results to show; but such instruction as this is worse than none — a hard saying, but nevertheless true. It is in no sense industrial drawing, nor does it form the basis for such drawing.

BAY CITY.

The drawings submitted by Bay City show the results of about one year's work. The same general course of instruction is followed here as at East Saginaw, and with similar results. The technical execution is somewhat better. There are more pictorial drawings from printed copies. These abound in errors of perspective.

GRAND RAPIDS.

The high school of Grand Rapids submits a few drawings from the flat and from objects. They are all very simple, and poorly done, especially the latter.

YPSILANTI STATE NORMAL SCHOOL.

A few drawings are exhibited by this school. They harmonize with what has already been described in Michigan. The drawings are better executed, but there is no rational, systematic course of instruction, and there is no indication of a desire to reach industrial results.

WISCONSIN.

MILWAUKEE.

For three years drawing has been systematically taught in the public schools of Milwaukee. The instruction is given by the regular teachers, who work under the direction of a general superintendent of drawing. The superintendent teaches in the normal school, instructs all the teachers of the city, and supervises the whole work. At the outset Milwaukee adopted the general plan of instruction followed in Boston; she has not, however, attempted to do as many things as Boston in the same time; yet she has gone steadily forward, advancing without friction. As yet her work has been limited to drawing two dimensions. The exhibit, at least, shows nothing more. Admirable results have been secured.

The papers prepared at the examination, March 8, 1876, by the class in the normal department, are shown. The instruction in this school extends over one year. At the time of the examination the students had pursued drawing six months. They were required to answer in writing, duly illustrated with drawings, the following ten questions:

1. What kind of drawing can be most advantageously taught in the common schools?
2. In what way is the pupil benefited by the study of drawing in the public schools?
3. How would you proceed in giving a lesson on slate and blackboard?
4. Write out a dictation exercise and make a corresponding drawing.
5. What are the different steps to be pursued by a pupil in making a drawing from a copy?
6. How would you manage to get your pupils to exercise neatness and care in their work?
7. Draw a number of progressive exercises suitable for beginners.
8. Draw an example of horizontal repetition.
9. Draw an example of vertical repetition.
10. Draw an example of central repetition.

Each student did what was required, and did it admirably, both as to the text and as to the drawings. This is an excellent illustration of one way in which teachers may be examined in drawing, when they are applicants for positions in the public schools. It is far from enough simply to require them to show their skill in drawing from the flat, from the round, or otherwise. So far as the evidence of this examination goes the students in the normal department are limited to the free hand drawing of two dimensions and to industrial design.

Milwaukee exhibits seven volumes of drawings which illustrate the character of the instruction from the seventh grade to the first grade of her public schools. These drawings correspond to the examination in the normal department. It is free hand representation of two dimensions. There are drawings from printed copies, from dictation, and memory, together with the original compositions. The latter show that in nearly all the schools good instruction is given in the elementary principles of decorative design. The technical execution of the drawings is good, perhaps as good as should be desired.

Some thirty or forty drawings are shown in frames. These illustrate blackboard work and pencil work, also work done by pupils who are younger than those represented in the bound volumes. It may be observed here that what has been accomplished in drawing by the youngest pupils in the Milwaukee schools is good evidence that the stigmographic method, either in its completeness or in its Cincinnati modification, is not required anywhere in the public shools.

There is no exhibit of work done in the high school. Perhaps drawing is not yet taught there. It may have been thought best in Milwaukee, as it has been thought best in some other places, to put off the introduction of drawing into the high school until pupils have come up from the lower grades with some knowledge of the elements and some skill of hand.

Milwaukee having attained such admirable results during the three years, or rather two years and a half at the time the exhibit was prepared, working in the direction indicated, she is now quite ready to add geometrical drawing with instruments and model and object drawing in outline to her grammar school course. More attention might also be profitably given to historic ornament. In the high school and normal department there should be model and object drawing, and drawing from the cast, done in light and shade, both with the pencil and with the crayon; also study of historical ornament and plant forms ornamentally treated, both in colors. These additions can now be easily made after so good a beginning in the right direction.

PLATTEVILLE STATE NORMAL SCHOOL.

This school exhibits a single volume of drawings, executed by a class that had studied drawing ten weeks. The drawings are all from good flat copies of ornament and flat copies of various manufactured objects, drawn like diagrams, as they would be drawn by practical designers. This work should be at once supplemented by memory and dictation drawing and by practice in original design.

WHITEWATER STATE NORMAL SCHOOL.

This school exhibits one volume of drawings, but of a more ambitious character than the volume exhibited by Platteville. The drawings appear to have been all executed from flat copies, a part in outline, a part in light and shade. They include the human figure, animals, flowers, elaborate ornamental forms, and decorated objects. There is nothing which can be properly made use of at the present stage of drawing instruction in this country by teachers below the high school grade. Had the different steps of the instruction been shown, one could then say whether or not the whole course, like that exhibited, is lacking in practical elementary features.

Much should be accomplished in the Whitewater school, since the students have a lesson each day for forty weeks, divided thus: Blackboard drawing, ten weeks; model drawing, five weeks; perspective drawing, five weeks; pencil drawing from flat copies, twenty weeks. When all the circumstances are considered, that does not appear to be the best possible arrangement.

ILLINOIS.

CHICAGO.

Numerous volumes of drawings and various framed examples, illustrating the character of the work done in the different grades of schools, are exhibited by Chicago. The character of the work is much the same throughout nearly the whole city, and shows the beginning of a rational, systematic plan of instruction. Most of the drawings exhibited are confined to two dimensions. Some are executed from printed copies, some from dictation, some from memory, and some are original compositions for decorative purposes. No time has been wasted on half tint, but in one or two schools the time of pupils has been worse than wasted in drawing animals, landscapes, heads, flowers, boats, etc., in light and shade. The original compositions indicate that correct instruction, so far as it is illustrated by the drawings submitted, has been given in decorative design. Some examples are shown of model and object drawing in outline. Another year much more will probably be done with the representation of the three dimensions. It should be noted to the credit of the instruction in Chicago that the drawings show a boldness and firmness of line not surpassed by any other drawings of a similar grade in the whole Exhibition. When we consider for how brief a time systematic instruction in drawing on a rational basis has been given in the Chicago schools, the results attained are worthy of all praise.

SPRINGFIELD.

Several volumes of drawings show the character of the work in the Springfield schools. There is no uniformity of instruction; a part one thing, a part another. Landscapes, animals, and other pictorial features are conspicuous. The instruction is bad in all respects.

DANVILLE.

One volume of drawings shown. Course of instruction bad, being of the usual pictorial character. The drawings themselves poorly executed. Time of pupils wasted.

BELLEVILLE.

Three volumes of drawings illustrate the work of the older pupils in the schools of Belleville. The drawings are all in light and shade, from flat copies of the usual character found in schools. There are landscapes, tumbledown buildings and fences, birds, animals, and the like. The exhibit is bad, bad, bad.

LEBANON.

The public schools of Lebanon exhibit one volume of miscellaneous drawings of a pictorial character and done on a large scale. They are objectionable, as usual; show no system, nothing good.

AURORA.

What is said of the exhibit made by Lebanon must be said of the few drawings from Aurora.

The few specimens of drawing submitted by other public schools in Illinois are not deserving of notice.

NORMAL UNIVERSITY, NORMAL.

This school exhibits one volume of drawings. There are simple exercises in drawing two dimensions with two or three samples of linear perspective. There is not enough of the perspective to show the course which the instruction takes. As a whole the instruction shows some signs of a rational method, but the ground covered is exceedingly slight. Illinois needs sadly to improve the drawing instruction in her normal schools, or to stop it all together.

NORMAL UNIVERSITY, CARBONDALE.

This school exhibits three volumes of drawings. Two volumes contain examples of drawings from the flat, in light and shade. There are landscapes, old ruins, animals, flowers, human figures, etc. The copies are bad and they are badly reproduced. The students had practiced drawing only a few months, and yet such is the kind of work attempted. Nothing could be worse. The third volume presents specimens of botanical drawings executed from nature. This is good, so far as teaching botany is concerned, but for early instruction in drawing it is not good.

MINNESOTA.

MINNEAPOLIS.

The public schools of this city exhibit six small volumes of drawings illustrating the work from the first grade to the seventh, inclusive. The drawings are, in the main, limited to the representation of two dimensions. They are nearly all reproductions, there being but few original compositions. A few perspective drawings of manufactured objects and one outline drawing from a cast are shown. The scope of the work is limited, but appears to be mainly in the right direction. A large part of the drawings are done on too small a scale. This should be remedied at once. More attention should also be paid to the finish of the lines, which are too irregular and woolly.

SAINT PAUL.

One volume of drawings done by the pupils in the primary department of the Jefferson school is all that Saint Paul has to show. The drawings are chiefly those of good ornamental forms. There are a few drawings of flowers in outline from printed copies. The technical execution is creditable. When a large city can do so little so well it should do much more and do it better.

IOWA.

There appears to be very little done with drawing in Iowa. Davenport, Des Moines, Ottumwa make slight exhibits. That is about all. The exhibit made by Davenport is the largest, but it contains nothing worthy of note. There is no rational, systematic instruction. A leading feature in the grammar schools is the making of pictures from flat copies. In the high school there is a little geometrical drawing, such as should find a place in the lower classes of the grammar grade. The drawing in the primary schools is altogether aimless. There is no evidence that the Iowa schools do better work in other studies because of the neglect of drawing.

MISSOURI.

ST. LOUIS.

For two years drawing has been quite systematically taught in the public schools of St. Louis. The exhibit made by the schools shows, here and there, a lack of decision, as though there was some doubt as to just what should be done; but on the whole the instruction is rational and progressive. It is not, indeed, carried out with equal success in all the schools.

There is one bound volume of drawings illustrating the course of instruction in the grammar schools. The instruction appears, as yet, to be chiefly devoted to the free hand drawing of two dimensions and to features of decorative design that properly accompany such drawing. There are some examples of object drawing in outline from printed copies, and two or three drawings from the solid; also a few examples of the application of color, in flat tints, for decorative purposes. Most of the work exhibited consists of original compositions for ornament.

The technical execution of the original compositions is quite creditable; but so much cannot be said of the knowledge and taste displayed in the arrangement of the forms. In some instances there is not enough background, and the ornament appears crowded; in other instances the reverse is true. It is a very good rule to give about one-third of the space to background and about two-thirds to ornament. Again, some of the designs lack breadth, all the parts of the ornament being too nearly of the same size. In some there is a want of unity, the different parts having no connection with one another. Finally, where a plant form is employed in the construction of the design, no heed is paid to its organic growth, and hence all sorts of impossible arrangements. Knowledge of a few simple principles of decorative design, easily applied, would have prevented all these mistakes. It should be further stated that the designs are not limited, as, in some schools, merely to symmetrical arrangement about a point. There are examples of horizontal and vertical repetition and of continuous growth.

The instruction given in the junior classes of the branch high schools is illustrated by a volume of drawings. There are geometrical drawings with instruments, free hand drawings from printed copies, and original decorative designs. Only two dimensions are represented. Most of the exhibited drawings are original compositions, a large part being quite elaborate. The principles of decorative design are grossly violated by many of them, and the criticisms made upon the designs from the grammar schools will apply here. The half tint in some instances, though correctly used, is altogether too much for ordinary school work. There is not time for it, and it is better to omit the pleasing effect which it gives. In looking over these designs one can but conclude that the teachers did not favor their pupils with enough of judicious criticism. It is certain that much better results, æsthetically considered, if not technically, should be secured with one-half of the time and effort. Really, these designs, though so much more elaborate, are no better than those from the grammar schools.

The central high school exhibits a volume of drawings illustrating its course of instruction, which covers instrumental perspective, drawing from the solid, in outline, also in light and shade, and applied design. What is here exhibited is, in all respects, deserving of praise. The instruction is rational, the technical execution is good.

St. Louis also submits a volume of drawings which consists wholly of original decorative compositions made to fill a given geometrical space. Leaves, flowers, birds, and berries are employed. The result indicates that the instruction is in the right direction. The chief fault in the compositions is a lack of breadth. Some are crowded. They are nearly all quite elaborate.

No exhibit of drawings appear to be made by the primary schools, though drawing is taught in them.

THE STATE NORMAL SCHOOL

Of Missouri exhibits a few specimens of drawing. They indicate that but little instruction is given in the school, and that the little given is all in the wrong direction. No other normal school of any State makes so poor an exhibit in drawing, though some of the others make very discreditable exhibits.

TENNESSEE.

NASHVILLE.

Several small portfolios of drawing are exhibited by Nashville to illustrate the course of instruction in the different grades of the public schools. The general character of the instruction and the results closely resemble what is seen in the exhibits made by Nashua, N. H., and by East Saginaw, Mich. Not good.

LOUISIANA.

NEW ORLEANS.

The Boys' Central High School, New Orleans, submits a small portfolio of drawings. These include drawings of machinery and buildings, of animals and human figures, with two studies of flowers in colors, and two landscapes in sepia. The picture element predominates. There is nothing to indicate the general course of instruction. The results lead us to suppose that, whatever it is, it is exceedingly defective.

CONCLUSION.

All the exhibits of elementary drawing have now been described in detail from notes taken upon the spot. It is seen that in teaching drawing in the United States several distinct and systematic plans are followed—plans of very unequal merit. Many towns and cities follow no system whatever, though they aim mainly at pictorial effect, and the drawings are usually executed from flat copies, which consist of landscapes, marine views, houses, ships, animals, birds, insects, fishes, flowers, &c., and are commonly of the most wretched character. All such drawing is worse than none. East Saginaw, Mich., appears to have striven the most zealously to obtain good results from this irrational, unprofitable method. As a State, New Jersey has given it the widest welcome. Nearly all the towns in New Jersey make an exhibit of drawing; but hardly one of these exhibits shows the slightest sign of an industrial feature or of systematic instruction.

There are many cities and towns whose exhibits show that they have made a good beginning in drawing. The work done in the public schools of Indianapolis and Fort Wayne, Ind., is decidedly commendable. The exhibit made by Columbus shows that drawing is better taught in that city than anywhere else in Ohio. A large part of the display made by St. Louis is deserving of commendation; and so is the limited amount of work shown by Chicago. Milwaukee deserves great praise; and so do Washington, D, C., and Syracuse, N. Y. All things considered, however, the highest praise—for much well done in a short time—should be given to the little city of Augusta, Me. It is worthy of note that in every city or town where really commendable results have been secured, the instruction displays some rational novelty that is worthy of imitation. Pittsburgh is an example of a city that has begun right, but lacks the courage to go resolutely forward. Of all the drawing exhibits made by cities, that made by Detroit is the most trivial and unpromising. The exhibits made by the cities and towns of Massachusetts are the only ones that illustrate a full and systematic course of instruction in drawing worthy to be compared with the best in similar European schools.

As to the normal schools of the country, it is evident that in most of them very little good instruction is given in drawing. The exhibit made by the one at Trenton, N. J., proves the instruction there to be most excellent. Drawing is also well taught, in most particulars, in the normal school at Millersville, Pa.

In conclusion it may be said that a survey of all the drawing exhibits shows that anything like satisfactory results have been obtained only where drawing has been regarded as a serious and important matter, and not as a mere pastime or accomplishment, where a comprehensive and rational plan, having the endorsement of the best experience, has been adopted and firmly adhered to; and where suitable efforts have been made to instruct the teachers, and to provide the schools with proper appliances for the use of teacher and pupils, instead of taking prodigal, pinching economy for a guide. Unless a city or town takes a broad, intelligent view of the matter, and resolves to do good work, patiently waiting for the fruit in its season, there can be no doubt that it is best to do nothing at all with drawing.

PHILADELPHIA, *October*, 1876.

IV.--WORK OF CINCINNATI CARVING SCHOOL SHOWN AT THE CENTENNIAL.

The following interesting and critical account of one of the main collections shown at the Centennial, an exhibit which attracted great attention as illustrating a new departure in women's work, is from the columns of "The American Architect and Building News," published in Boston, Mass., March 31, 1877:

"WOMEN AS WOOD CARVERS.—THE MOVEMENT IN CINCINNATI."

Visitors to the Women's Pavilion at the Centennial Exhibition were generally surprised to find there, among many other surprising things, a large collection of furniture. This was in the pleasant Cincinnati corner. The question was naturally asked, "Have women turned cabinet makers?" It could be answered in the affirmative, for several of these pieces were entirely made by women. But these were exceptional. The object of the exhibition was to show the progress made during the last few years in the art of wood carving as practiced by women. Cincinnati is the centre of this industry, and the extent to which it has been carried is surprising. The works of this kind thus far produced are those of a school as distinctive and individual in its character as those of any other school of art that has ever existed. The exhibition was made up from the contributions from two classes of artists, those from the school of carving, conducted by Henry L. Fry and his son, William H. Fry, and from the McMicken school of art conducted by Mr. Pitman. Their methods are so similar, however, that it is impossible to distinguish between them from the style of the work; and in aim and motive they are practically one, moving together in perfect harmony and good fellowship.

It has been an interesting task to trace out the origin and organization of this remarkable movement. The master spirit and originator of the whole is Henry L. Fry, an English workman. We are indebted to him for much of the information received. But he has had able and enthusiastic coadjutors, and what is more remarkable, the movement has received such financial support that its permanence and future development are assured; for what has been done thus far can hardly be considered as more than trial work, that is, so far as the education of women is concerned and a foundation for better things to come as opportunities offer.

HENRY L. FRY, ART CARVER.

Mr. Fry is a native of Bath, England. He worked on the famous Fonthill Abbey, built by William Beckford, and thus became initiated into what was then considered as the Gothic revival. He worked also on the screen of Westminster Abbey under G. G. Scott, and the House of Parliament under Charles Barry and Pugin. He left London in 1849, before the Gothic revival had taken that shape in which the present generation have watched its progress; but he has not failed to follow its developments and fortunes to the present day. He did some work on the Ohio state-house at Columbus, but has resided mostly in Cincinnati. His work in that city has been extensive, and may be found in the houses of Edmund Dexter, Judge Estes, Mr. Probasco, Mr. Shillito, and Mr. Nichols. Any one who has seen the interior of the house of Mr. Probasco, designed by Mr. Tinsley, of Cincinnati, could not fail to have observed the rich carvings of the staircase, so varied that each baluster is a study by itself. Designing his own carving, and impressing upon it his own individuality, in a time when such work throughout our whole country was of a character as debased as it would seem possible to be, his work did not fail to receive just and due recognition from a few architects and appreciative amateurs. It was the work done by his son, William H. Fry, in the house of Mr. Nichols, which excited such general interest in the art that many persons sought instruction from him. Mr. Nicholas Longworth, jr., was one of the first to take to it.

CARVING INTRODUCED IN THE SCHOOL OF DESIGN.

Mr. T. S. Noble, the painter, and principal of the McMicken School of Design, became interested, and formed the project of introducing the study of wood-carving into that institution, and finally succeeded. Mr. Benjamin Pitman, well known as an authority in phonography, was one of the champions. The introduction of the study of wood-carving in the School of Design in 1873 was largely due to the influence and indefatigable exertions of Mr. Pitman, who exhibited some fine specimens of his own work, and that of members of his own family, to the committee having the school in charge. He volunteered to give three lessons a week to such of the members of the school as chose to take up the new study; and no less than eighty-eight members were enrolled in his class, nearly all being women. At the end of three months an exhibition of the results was given, which astonished all beholders. Recognizing the fact that a more liberal expenditure of money would greatly increase the usefulness of the school, Mr. Joseph Longworth made two gifts of $50,000 each, the interest of which should be devoted to the support and improvement of the school of design. He said in making the gift that "some employment ought to be provided for the idle rich as well as the industrious poor." The carving school has shared in the benefits of this contribution.

A Cincinnati correspondent of the *New Century for Women*, a paper published at the Centennial Exhibition, speaking of the work done in Cincinnati, says:

"Much of the work thus far has been done by those who desired some special article of furniture for the decoration of their own rooms, or who wished to make a gift doubly precious to a friend by offering the work of their own hands; but there are also some who propose to make this work a profession, and who are willing to execute orders."

MR. FRY'S SCHOOL.

The class in the McMicken School of Design became so large after a while that several ladies who were desirous of more special instruction than could there be obtained went to Mr. Fry's workshop, and studied where they had the advantage of seeing his own and his son's work in progress. They soon requested him to form a private class, charging pupils for instructions, which he did in 1874; and now he has a regularly organized school. The work of his pupils formed a considerable part of that sent to the Centennial Exhibition.

In a private letter written in July last, and published in the Cincinnati Gazette, Mr. Fry speaks thus:

"We were very fortunate in our pupils. My son gave them particular attention, and they responded by faithful and diligent application, and I know that it would be a difficult matter for us to get such excellent work from the ordinary skilled workmen who make ornamentation. Most of our pupils, of course, have the culture, taste, and refinement that are needed for such work, and their delicacy of manipulation and their leisure must be taken into account. Besides, the hand of woman is better adapted and admirably organized for some of our work, better fitted for the development of the beautiful in art."

Mr. Fry not only had his class in Cincinnati, but was induced to form another in Dayton, only a year ago. Here he had sixteen lady pupils, to whom he gave twenty-five lessons; some of their work also went to the Centennial.

While writing we have before us a photograph of a corner cabinet from the house of Nicholas Longworth, carved by William H. Fry. It is a remarkably fine specimen of the art work of one whose example has had such a potent influence upon this new school of carving. The motive is evidently English Gothic of the fourteenth century, but it is such as a son who had never seen the old work might inherit from a father perfectly conversant with it. The carving is treated throughout with freedom from the restraint always imposed by an attempt to work in a style. The wardrobe has two doors, each door has a rail in the center, the lower space being divided into two upright panels with elaborate linen panels, while the upper space contains one large carved panel. The treatment of the upper panels is somewhat after the manner of monumental brasses. The left-hand door represents Freya, goddess of love (?), and on the right Thor, god of strength, from the Norse mythology. The drawing of each figure is given mostly in lines and slightly indented work, while the ground work is cut away to a greater depth. The border around each panel, which is richly covered with rosettes in circles, is again on the same level with the surface of the figure. All the moulded work on the wardrobe is carved, and the sloping top is covered with carved scales. In fact, very little plain work is visible, the framework of the doors even being carved with intaglio work. Herein is a fault which Mr. Fry's pupils have not failed to copy, and which destroys all repose in the work. It was noticeable in the women's work at the Exhibition that there was an evident disposition to cover all plain surfaces with niggling ornament, thereby detracting attention from the really fine carving with which the more important parts of the articles were wrought.

This would hardly be worth mentioning here were it not for the unfortunate example of the younger Mr. Fry. But aside from this, his work has real artistic merit. The hinges and other metal work of this piece are especially noticeable, being original in design, and skillfully wrought.

It seems but a short step from the work of Mr. Fry to that of his lady pupils. Of the great number exhibited at Philadelphia, some were well worth attentive study. The panel carvings in relief by some of the ladies were careful studies of natural form, handled with great vigor and precision, while others attempted figure — subjects in low relief. Conventional ornamentation of mouldings and shafts in low relief was generally well handled; but the prevalent error of introducing fine incised ornament where surfaces should have been left plain, was everywhere to be seen. It was noticeable that but few attempts had been made to reproduce undercut work; but this is not surprising, considering the short experience of the practitioners. It may also be ascribed to the natural inability of women to perform the muscular part of the work. The degree in which they accomplished even this is surprising; but an explanation offered by Mr. Fry will tend to make it clear. In answer to an inquiry as to how women could drive the carving-tool by blows from the flat hand, as is common with all carvers, he said that they used wooden mallets very extensively, and became remarkably expert with them. Among the examples of work by pupils of the Fry's we noticed especially the carved panels in a corner cupboard by the wife of Judge Force, of Cincinnati, which were of birds and flowers carved in relief, and nearly covering the two large panels.

The bedstead designed by Mr. Fry, and carved by Mrs. Dr. Williams of Cincinnati, was a fine piece of furniture both in its design and decoration, and decidedly the best designed of any in the women's exhibit. The headboard had an appropriate inscription in the German language, "*Morgenstunde hat gold im munde,*" of which the translation was given, "the morning hour hath gold in its mouth." All the raised panels were treated with figure-subjects of personal interest to the owner of the article.

There were also an elaborate Gothic table by Mrs. W. Dodd, of Cincinnati, with a finely wrought vine on the flat smooth top treated in the Japanese manner, and a carved easel by the same lady.

One of the finest exhibits was a hanging cabinet by Miss Louise McLaughlin, of Cincinnati, entirely of her own design, all the carving and decoration being wrought by her own hands. The cabinet was designed in the style of B. J. Talbert. In the doors were hand-painted tiles, with gold ground, representing ladies in the costumes of 1776 and 1876. The hinges, modelled by Miss McLaughlin in wax, were cast in bronze and finely chased. This piece was filled with paintings on porcelain and pottery by the same artist.

Coming to the work of Mr. Pitman's school, we found many examples of his daughter's work. On a chest of drawers was represented a summer poem in six verses. Here were for April, a crocus and snow drop; for May, ferns unrolling their leaves; for June, honeysuckle and jasmine; for July, convolvulus and balloon vine; for August, poppy; and for September, gladiolus. The handles and escutcheons of these drawers were modelled by Miss Pitman, cast in brass and nickle plated.

There were also two oak doors from Mr. Pitman's own house, carved and inlaid with ebony by his daughter.

The Misses Johnson exhibited several pieces, among them a bedstead carved to commemorate the vines growing on the porch of their own house, a bit of appropriate sentiment in view of the fact that the vines proved to be excellent motives for decoration. The work was done in black walnut and ebony, and a panel was introduced with painted decoration on a slab of slate. The inside of the footboard had the most beautiful and delicate piece of carving we have ever seen, representing a convolvulus in intaglio. The last mentioned ladies have adopted carving as a profession.

Besides the above were good examples by Miss F. M. Banks, of Cincinnati, and Miss M. L. Pack. A cabinet organ carved by Miss Banks was inscribed with these words from Moore:

"She sang of love, as flowers would sing,
If love could lend their leaves a tongue."

Besides furniture there were brackets and shelves in profusion; but among the most useful application of women's work were noticed a number of alms basins and book covers, and especially a prayer book by Miss Helen Collard.

It seems invidious to criticise these works, in view of the fact that none of them are the results of more than three years of study and practice, and it is not yet time to see what will be the practical results of the movement. So far as the amateurs are concerned, it may prove to be only a temporary burst of enthusiasm, like that which follows every novelty. But, though refined ladies may get tired of the self-imposed drudgery necessarily connected with much of the work, the knowledge gained by them of an art which is generally so little appreciated will ever serve them, not only in their ability to judge of the works of others, but in doing good missionary work wherever they go. It is the want of just such knowledge as this that deprives good artistic work of the patronage so essential to its encouragement.

Those women who undertake it for a livelihood will doubtless go on and improve in the quality of their work; but, as has been said, the range of it will always be limited. With these two things are necessary to make the movement a permanent success: First in order is the encouragement of those who have employment to bestow and the intelligence to guide it into useful channels; for this we must look to the able architects of Cincinnati. Second, it is essential that the carvers receive that higher instruction in art-workmanship which can only be obtained from the study of the best models. It is also important that they be employed to work on things which are beautiful in themselves. The absence of any furniture of good design in the exhibition except that made by Mr. Fry and Miss McLaughlin was noticeable. The work from the McMicken school showed that the art of carving had been better cultivated in that institution than the designing of furniture. When the influence of scholarly and educated designers, in full accord with the latest developments of decorative art in England and America, is felt in the school which has had its inception in Cincinnati, we may safely look for the best results of the labors of these "idle rich," as well as "industrious poor," women of America."

V.—REPORT OF COMMITTEE ON DRAWING.*

Prof. L. S. THOMPSON,
President of the Department of Art, National Educational Association:

Your committee, appointed at the meeting of the Department of Art Education of the National Educational Association, held at Saratoga, 1883, to report at this meeting on a course of study in industrial drawing for public schools, beg to submit—

1. The educational and practical considerations on which the course of study presented by your committee is based.
2. The character of the existing instruction in drawing in public schools, normal schools, and technical schools.
3. Suggestions of a thoroughly graded course of study in industrial drawing for public schools.
4. Suggestions of a graded course for normal schools.
5. Recommendations and suggestions of the committee for efficiently carrying out these courses in all grades of public and normal schools.

DRAWING EDUCATIONALLY AND PRACTICALLY CONSIDERED.

As preliminary to the task assigned to your committee, it was deemed advisable to formulate the views of the committee as to the educational and definite character of drawing, as well as to what may be considered sound methods of instruction.

There are three successive stages in mental development—perception, thought, expression. Elementary education must reach these powers primarily through the senses. No single study deals more directly with sense perception than drawing, and it should, therefore, have a recognized educational rank in any scheme of elementary instruction. The training afforded by drawing should begin with the first grades of primary schools, and continue in progressive order throughout the entire school life like any other study. A course of study in drawing should, therefore, provide for continuous instruction throughout the whole school period. Drawing, educationally considered, has two aspects:

(1) It is a means of studying form, that inseparable characteristic of all that goes to make up the visible world.

(2) It is a graphic language for expressing thought in regard to form in nature, art, science, and industry.

The study of form should be presented by objects, and according to sound principles of mental development, which require first perception, then absorption, then expression and creation, no one of these powers being neglected. Children should be led first to perceive forms through the senses of sight and touch. When this training has been provided pupils should be led to express by making and drawing (1) what they see, (2) what they know, and (3) what they conceive, thus developing from perception to expression and creation. In a course of study in drawing the continuous element should be the study of form from models and objects, geometric solids being given first as the simplest forms.

As education should proceed regularly from the simple to the complex, a course of study in drawing should be carefully graded, both on the perceiving and expressing side.

As drawing involves a study of form and of objects, and the expression of ideas derived from such study, its grading and classification should be with regard to the manner of studying the models and objects, and the thoughts to be expressed. The chief educational points to be observed in the study of the forms of objects, and the thought to be expressed in regard to them are (1) the actual forms of objects and how to represent them; (2) the appearance of the objects to the eye and how to represent their appearance; (3) the enrichment of objects by ornamentation and the principles relating thereto.

All other divisions of drawing range themselves readily under these three heads, according to the nature of the work. A comprehensive course of study should make definite and evenly sustained provision for the development of these three divisions, so that about midway in the course the instruction should crystallize into the clearly defined subjects of constructive drawing, representative drawing, and decorative drawing.

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* Made to the National Educational Association at Madison, Wis., July, 1884.

In drawing there are two methods of execution: (1) By the free hand, (2) with the use of instruments. The former is mainly used in drawing from objects, from nature, and in pictorial work generally. The latter is mainly used in constructive and industrial work, such as machine building and architectural drawings where great accuracy is required. A proper course of study will provide for the development of skill in drawing by both of these methods.

Drawing, practically considered, is an essential element of all mechanical, scientific, technical, and art work, thus entering into a large proportion of the occupations of life.

A course of study for public schools should recognize the practical as well as the educational outcome of the instruction, and should lock forward to the broader development of advanced study. To this end, the instruction in the public schools should conform to the requirements of the study in higher education, both in free hand and instrumental drawing.

CONDITION OF DRAWING.

With these general views in mind the committee deemed it advisable to ascertain as clearly as possible the character of the present instruction in drawing in public schools, normal schools, and higher institutions before attempting to formulate a course of study, and accordingly circulars asking information in a series of questions were sent to school superintendents, normal schools, schools of mechanic arts, technical schools, schools of design, colleges, and universities. A very large proportion of the schools and institutions applied to have given ready response by answers more or less specific to the questions of the committee.

These replies have been examined with great care, and the information thus obtained enables your committee to present a general view of the condition of the study of drawing in the public and normal schools and in the scientific and technical schools of the United States, which is of no little educational importance in its bearing upon the present inquiry.

PUBLIC SCHOOLS.

By these are meant all those schools from primary to high schools which are supported by public money. The following seventy-two cities have reported, and the list comprises nearly all the cities that have made serious efforts to introduce drawing. Their replies have been classified under seven heads in the following tables. (See Tables A and B.)

In arranging accompanying tables the committee wish their basis of classification distinctly understood.

In Table A, in cities lacking supervision or objects to teach with, the character of the instruction must be necessarily incomplete, and is marked so; also, wherever the instruction is not developed on the three parallel lines of construction, representation, and decoration. In many cities the subject of construction as defined in this report is not understood or practised in the primary and grammar schools.

In Table B, drawing, a study in public schools, means: Are students in normal schools being educated in the direction of the work they are to teach, in primary and grammar schools, the character of which has already been defined in the report?

Schools where the geometric type forms are not made the basis of the very beginning of child teaching, so that before pupils know lines, they know form as form in the concrete, are classified under the head of "Form," as "No," meaning they do not teach it in this sense, though they may draw from objects in perspective.

TABLE A.

Cities.	Drawing a regular study.	Amount of time per week.	Supervision.	Instruction, graded or ungraded.	Objects for instruction.	Character of instruction, parallel lines of development.	Work in high schools.
Adrian, Mich	Yes	1½ hours	Yes	Imperfectly graded	No supply	Incomplete	No instruction.
Ann Arbor, Mich	do	do	do	do	do	do	Do.
East Saginaw, Mich	do	do	do	do	do	do	Do.
Detroit, Mich	do	do	do	Graded	Partial supply	Complete	Do.
Grand Rapids, Mich	do	do	do	Imperfectly graded	No supply	Incomplete	Do.
Port Huron, Mich				Optional	No report		
Minneapolis, Minn	Yes	1 hour	Yes	Graded	Partial supply	Complete	Partial development.
Stillwater, Minn	do	2 hours	No	Imperfectly graded	No supply	Incomplete	No instruction.
St. Paul, Minn	do	1½ hours	Yes	Graded	Partial supply	Complete	Partially developed.
Winona, Minn	do	1 hour	do	do	do	do	Do.
St. Louis, Mo	do	1½ hours	do	do	Well supplied	do	Do.
Franklin Falls, N. H	do	1¼ hours	No	Imperfectly graded	No supply	Incomplete	No instruction.
Nashua, N. H	do	50 minutes	do	do	do	do	Do.
Camden, N. J	do	2 hours	do	Graded	do	do	No high school.
Elizabeth, N. J	do	1 hour	do	Imperfectly graded	do	do	No instruction.
New Brunswick, N. J	do	do	do	do	do	do	Do.
Newark, N. J	do	do	do	Graded	Partial supply	Complete	Do.
Plainfield, N. J	do	2 hours	do	Imperfectly graded	No supply	Incomplete	No high school.
Trenton, N. J	do	1 hour	do	Graded	do	do	No instruction.
Auburn, N. Y	do	1½ hours	Yes	do	Partial supply	Complete	Partially developed.
Poughkeepsie, N. Y	do	do	do	do	do	Incomplete	Do.
Syracuse, N. Y	do	do	do	do	do	Complete	Do.
Columbus, Ohio	do	do	do	do	Well supplied	do	Well developed.
Cleveland, Ohio				No drawing			
Dayton, Ohio	Yes	1½ hours	Yes	Graded	Partial supply	Complete	No instruction.
Hamilton, Ohio	do	1 hour	No	Imperfectly graded	No supply	Incomplete	Do.
Urbana, Ohio	do	1¼ hours	Partial	do	Partial supply	do	Do.
Hartford, Conn	do	1 hour	Yes	do	do	do	Do.
New Haven, Conn	do	do	do	Graded	No supply	do	Partially developed.
Middletown, Conn	do	2 hours	No	do	Partial supply	do	No instruction.
Wilmington, Del				Optional			
Washington, D. C	Yes	1½ hours	Yes	Graded	Partial supply	Complete	Do.
Bellville, Ill	do	do	No	Ungraded	No supply	Incomplete	Do.
Chicago, Ill	do	do	Yes	Graded	Partial supply	Complete	Partially developed.
Moline, Ill	do	do	No	Imperfectly graded	No supply	Incomplete	No instruction.
Ottumwa, Ill	do	1 hour	do	Ungraded	do	do	Do.
Rock Island, Ill	do	do	do	do	do	do	Do.
Indianapolis, Ind	do	1½ to 2 hours	Yes	Graded	Well supplied	Complete	Partially developed.
Vincennes, Ind				No drawing			
Burlington, Iowa	Yes	1 hour	Partial	Graded	No supply	Incomplete	No instruction.
Davenport, Iowa	do	2 hours	No	do	Partial supply	Complete	Do.
Des Moines, Iowa	do	3½ hours	do	Imperfectly graded	No supply	Incomplete	Do.

Louisville, Ky	Yes	40 minutes	No	Graded	Partial supply	Incomplete	No instruction.
Auburn, Me	do	1 hour	do	Ungraded	No supply	do	Do.
Baltimore, Md	do	1½ hours	Yes	Graded	Well supplied	do	Partially developed.
Boston, Mass	do	1½ to 2 hours	do	do	do	Complete	Well developed.
Fall River, Mass	do	1⅓ hours	No	do	No supply	Incomplete	No instruction.
Haverhill, Mass	do	do	do	do	do	do	Partially developed.
Lawrence, Mass	do	do	Yes	do	do	do	Do.
Newton, Mass	do	do	do	do	Well supplied	Complete	Well developed.
Pittsfield, Mass	do	do	No	do	No supply	Incomplete	No instruction.
Springfield, Mass	do	do	Yes	do	Partial supply	Complete	Partially developed.
Waltham, Mass	do	1 hour	do	do	No supply	Incomplete	No instruction.
Worcester, Mass	do	1½ hours	do	do	Well supplied	Complete	Well developed.
Tiffin, Ohio	do	1 hour	No	Ungraded	No supply	Incomplete	No instruction.
Salem, Oreg	do	1⅓ hours	Yes	Graded	do	do	Do.
Allegheny, Pa	do	do	No	do	do	do	Do.
Altoona, Pa	do	1 hour	do	Ungraded	do	do	Do.
Bradford, Pa	do	1½ hours	do	Graded	do	do	Do.
Chester, Pa	do	do	do	do	do	do	Do.
Easton, Pa	do	2 hours	do	Imperfectly graded	do	do	Do.
Erie, Pa	do	1 hour	Yes	Graded	Partial supply	Complete	Partially developed.
Titusville, Pa	do	50 minutes	Partial	do	do	Incomplete	No instruction.
Lancaster, Pa	do	1 hour	No	Ungraded	No supply	do	Do.
Philadelphia, Pa	do	do	do	Graded	do	do	Do.
York, Pa	do	2 hours	do	Imperfectly graded	Partial supply	do	Do.
Milwaukee, Wis	do	1½ hours	Yes	Graded	do	Complete	Partially developed.
Racine, Wis	do	Not stated	No	Imperfectly graded	No supply	Incomplete	No instruction.
Oskosh, Wis	do	2 hours	do	Ungraded	do	do	Do.
Philadelphia, Pa	do	1½ hours	do	Graded	do	do	See Table B.

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Drawing a regular study means: Is drawing obligatory on all pupils?
Amount of time per week means: Length of time given to teaching drawing and form.
Supervision means: Is there a special supervisor employed?
Instruction graded, etc., means: Is the work arranged to develope the study in regular sequence?
Character of instruction means: Is the study developed along three parallel lines of instruction, viz, construction, knowledge of the facts of solid objects, and their application to constructed work; representation, knowledge of the appearance of form, in two and three dimensions acquired by direct study from the object; decoration, knowledge of the ornamentation of form, obedience to correct laws of design and practice in conventionalism from nature.

Under this classification it will be observed:

That 69 cities report drawing as a regular study;

That the average time devoted to drawing is an hour and a half per week;

That 35 of these cities have special supervision of the study;

That in 41 the instruction is graded;

That in 7 the schools are well supplied with models and objects for the work; in 20 partially supplied;

That in 20, the instruction is incomplete;

That in 4, it is well developed through all grades including high schools, 2 fairly, and in 14 partially.

These statements show to a certain extent what is being done, but a glance at the negative side will show strongly the imperfect condition of the study. It is safe to remark that satisfactory instruction will be found to depend upon the following important conditions: Good supervision and proper training of teachers; suitable objects to be used in the instruction.

One-half of these cities have no supervision in drawing, while nearly two-thirds report as having no objects for use in teaching drawing, and only one-tenth are well supplied. Consequently we find that in more than half the schools the study is not properly graded, and but very few in which the primary instruction is intelligently given, while in more than two-thirds of the cities the instruction is incomplete, taking up only one or two of the three subjects necessary for the proper educational work in drawing.

Under these circumstances we find that in five-sixths of the high schools there is either no instruction or that it is very inadequately developed.

To summarize these results, we may say the returns from primary and grammar schools show a good amount of time, force, and money devoted to the teaching of drawing, but that the provisions for intelligent supervision, and the supply of objects from which to give the instruction, is so meager as to cause the instruction in more than two-thirds of the schools to be seriously misdirected, and all other efforts greatly impaired. The importance of thorough public school instruction will be more apparent when we come to consider the work in the scientific and technical schools.

NORMAL SCHOOLS.

It is the function of normal schools to train teachers for the public schools. The nature of the instruction in drawing in the normal schools is therefore of special interest in this inquiry.

The following table gives the substance of the replies from forty of the normal schools which reported to the committee. The index accompanying the table explains the classification:

TABLE B.

Cities.	Special teacher.	Drawing a public school study.	The study of form.	Construction.	Pictorial.	Decoration.	Obligatory.	Time per week.	Appliances.
Gorham, Me	Yes	No	No	Imperfect	Fair	None	Yes	1½ hours	Moderate.
Boston, Mass	do	Yes	Yes	do	Good	Good	do	2 hours	Good.
Framingham, Mass	do	No	No	do	do	do	do	do	Do.
Salem, Mass	do	Yes	do	do	do	do	do	do	Do.
Bridgewater, Mass	do	do	Yes	do	do	do	do	do	Do.
Worcester, Mass	do	No	No	do	do	do	do	1½ hours	Do.
Providence, R. I	No	do	do	do	Imperfect	Imperfect	do	Not given	Moderate.
Randolph, Vt	do	do	do	do	do	None	do	3¾ hours	Poor.
New Britain, Conn	Yes	do	do	do	do	Imperfect	do	4 hours	Good.
Cortland, N. Y	do	do	do	None	do	do	do	3½ hours	Moderate.
Geneseo, N. Y	do	do	do	do	do	None	do	5 hours	Do.
Fredonia, N. Y	do	do	do	do	do	do	do	do	Not given.
Albany, N. Y	No	do	do	Imperfect	do	Imperfect	do	do	Moderate.
Buffalo, N. Y	Yes	do	Yes	do	Good	Good	do	2 hours	Good.
Oswego, N. Y	do	Yes	do	None	do	Imperfect	do	3 hours	Good.
Philadelphia, Pa	do	No	No	Imperfect	do	Good	do	do	Excellent.
Rushtown, Pa	do	do	do	None	do	None	do	3½ hours	Moderate.
Bloomsburgh, Pa	do	Yes	do	do	do	do	do	Not given	Do.
Indiana, Pa	do	No	do	do	Imperfect	do	do	do	Do.
Millersville, Pa	do	Yes	do	do	do	Imperfect	do	3¼ hours	Good.
California, Pa	do	No	do	do	do	do	do	4 hours	Not given.
Baltimore, Md	do	Yes	do	Imperfect	do	do	do	3 hours	Good.
Washington, D. C	do	do	Yes	do	Good	Good	do	2 hours	Moderate.
Cleveland, Ohio			No	Drawing					
Dayton, Ohio	Yes	No	do	Imperfect	Imperfect	Imperfect	Yes	2 hours	Poor.
Columbus, Ohio	do	Yes	Yes	Good	Good	Good	do	do	Good.
Terra Haute, Ind	do	No	No	None	Imperfect	Imperfect	do	do	Poor.
Normal, Ill	do	Yes	do	Imperfect	do	None	do	5 hours	Good.
Oshkosh, Wis	do	do	do	do	do	do	do	2½ hours	Poor.
Winona, Minn	do	do	Yes	do	Good	Good	do	3 hours	Do.
Mankato, Minn	No	No	No	None	Imperfect	Imperfect	do	4 hours	Do.
St. Cloud, Minn	Yes	do	do	do	do	do	do	5 hours	Do.
Cedar Falls, Iowa	do	Yes	do	do	do	None	do	1¾ hours	Do.
St. Louis, Mo	do	do	Yes	Good	Good	Good	do	2 hours	Moderate.
Kirksville, Mo	No	No	No	None	Imperfect	Imperfect	do	5 hours	Poor.
Warrensburg, Mo	Yes	Imperfect.	do	do	do	None	do	3½ hours	Do.
Emporia, Kans	do	Yes	Yes	Imperfect	do	Good	do	do	Do.

TABLE B—Continued.

Cities.	Special teacher.	Drawing a public school study.	The study of form.	Construction.	Pictorial.	Decoration.	Obligatory.	Time per week.	Appliances.
Tuskegee, Ala	No	No	No	None	Imperfect	Imperfect	Yes	Not given	Poor.
Huntsville, Tex	Yes	do	do	do	do	do	do	2 to 3 hours	Moderate.
San José, Cal	do	do	do	do	do	do	do	5 hours	Poor.

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Special teacher means: Is there one employed?

Drawing a study in public schools means: The recognition of drawing in general education as a means for developing and expressing thought, and for its application in adult life.

The study of form means: The development of ideas of form from geometric solids and objects from the beginning of school life as the basis for future instruction.

Construction means: The study of the facts of form of objects, and the science of expressing these facts for constructive purposes.

Pictorial means: The science and art of representing objects as they appear to the eye in outline, light, shade, and color from the objects themselves.

Decorative means: The science and art of designing ornament according to accepted laws.

Obligatory means: Compulsory.

Time means: Amount given per week.

Appliances means: Rooms, objects, and instruments used in instruction.

From this table it is seen on the positive side that in all but one of the schools drawing is obligatory, and that thirty-three schools have special eachers ; that the average time given to drawing is three hours a week; that in eleven of these schools drawing is presented as having a direct educational bearing on the preparation of teachers for their work in the public schools.

While on the negative side it will be seen that the appliances for teaching drawing are excellent in only one school, good in but twelve, while in the remaining two-thirds the provisions are very inadequate; that only eight make the study of form from solids and objects the basis of instruction; that only three present the study of the facts of form adequately, while eighteen do not recognize this branch of study; that only five schools give instruction in the three subjects of drawing, and base the instruction on an elementary study of form; that only fourteen give a fair amount of instruction in pictorial drawing, based on recognized principles, while twenty-four give very imperfect instruction in this subject, and only eleven give special attention to the subject of design; that in most of the schools the object seems to be to train the students to a certain facility of manual execution, without any comprehension of the essential principles and the requirements for teaching the study in the public schools.

To summarize, in the forty schools reporting, drawing is obligatory in all but one, while a good amount of time is given to the study, and special teachers are provided in nearly all the schools; but, on the other hand, only one-third of these schools have good appliances for teaching, while in but few is the instruction complete in its bearing upon the proper methods for teaching drawing in public schools.

Thus while a strong sense of the value of drawing is apparent in the normal schools, it is also evident here, as well as in the public schools, that the labor of the special teachers and the time of the pupils is largely misdirected. It is one of the strange inconsistencies of the time that while normal schools have kept pace with the general progress of public education, the educational and practical value of drawing has not received sufficient consideration at the hands of many of the directors of normal schools.

ADVANCED EDUCATION.

Manual training schools, technical schools, schools of design, colleges, and universities: These institutions cover instruction in agriculture, architecture, art, civil mining and electrical engineering, mechanic arts, natural history, and science.

In all the completely arranged courses of these various subjects, drawing is pursued from one to five years.

From the replies and catalogues received from these various institutions the following facts have been obtained.

All scientific schools, technical schools, and schools of agriculture, require drawing as a regular study.

The following schedule shows the time given to drawing in the various schools:

Schools.	Time given.
Science	Two terms to four years.
Mechanic arts	Through the course.
Technical schools	One to four years.
Agriculture	Two terms to three years.
Military schools	Through the course.
Architecture	do
Schools of design	do

The following schedule shows the time during which drawing is pursued in the various courses of the Massachusetts Institute of Technology. This institution has been selected as illustrating most comprehensively the position which drawing occupies in all advanced instruction of this nature:

(Institute of Technology. School of Industrial Science. Nine courses.)

I. Civil engineering: Drawing through four years.
II. Mechanical: Drawing through four years.
III. Mining: Drawing first year and first half second and fourth year.
III. B, Geology and mining: Drawing first year and first half of second year and fourth year.
IV. Architecture: Drawing through four years.

V. A, Chemistry: Drawing first year, last half third year.
V. B and C, Chemistry: Drawing first year, last half third year.
VI. Metallurgy: Drawing first year, first half of fourth year.
VII. Natural history: Drawing first and second years, last half of fourth year.
VII. B, Natural history: Drawing first two years.
VIII. A, Physics: Drawing first year and first half of second year.
VIII. B, Electrical engineering: Drawing first and second years and first half of third year.
IX. A, General course: Drawing first year.
IX. B, General course: Drawing first year.
IX. C, General course: Drawing four years.

From these two schedules the fact comes out strongly that a knowledge of drawing is considered as fundamental and indispensable in schools of science, technology, art, and agriculture. But a careful examination of the provisions for drawing in these various courses of study brings out with equal strength another fact, that is the almost complete lack of preparation on the part of students entering these institutions; for in all but three instances the instruction begins with the very simplest work that can be given.

Only three institutions place a knowledge of elementary drawing on the list of requirements for entrance. How serious a hinderance this want of a knowledge of drawing is in advanced technical and scientific education will be realized from the testimony which follows.

We give here a quotation from the reply of Professor Hasbrouch, professor of mathematics and graphics in the Rutger's Scientific School, New Jersey, where drawing is a regular study for four years. He says:

"I am heartily of the opinion that a course of drawing, well taught and properly considered, is of more importance in all our schools, particularly in communities devoted to industrial pursuits, than instruction in writing. That is not sentiment, it is conviction."

Mr. George L. Vose, professor of civil engineering in Bowdoin College, says "that such a course in free hand and instrumental drawing as might be well and thoroughly taught in the common schools without in the least consuming the time from other studies would save a year in the department of drawing in any of our technical or engineering courses; and this is not simply a matter of opinion with me, but I know it from an actual comparison in my classes of students who had received such a preliminary training with those who had not."

CONCLUSION.

In looking over the whole field we find the instruction in normal schools uneducational and disconnected, directed mainly toward execution, and with very little consideration of the needs of the public schools.

In the public schools we find that the time given to the study is, to a great extent, wasted from a lack of proper direction and facilities for teaching.

In advanced education, in art, science, and technology, all the work is greatly retarded from a lack of elementary knowledge in drawing on the part of students.

COURSE OF STUDY FOR PUBLIC SCHOOLS.

In view of the foregoing considerations, the committee submit the following outlines of a course of study in drawing for public schools. In this course they have endeavored to present the general features of the study in the educational order of development through primary, grammar, and high school. Such a course of study it is believed would be entirely practical in character, by giving one and a half to two hours per week to the subject, under proper supervision, and when the schools are supplied with suitable objects for the instruction. Particular attention is invited to the outcome of instruction in the high schools, and its bearing upon further scientific, technical, or art instruction.

It is assumed that the period in each grade of schools is four years; that in the primary grade the instruction will be devoted mainly to the development of perception of form; in the grammar grades to an acquisition of the principles which govern the expression of ideas in regard to the construction, representation, and decoration of objects; in the high school grades to a further development of the principles begun in the grammar grades, and their technical application in machine building and architectural construction, pictorial representation of objects and natural forms, in light and shade, and colors, applied industrial designs, and a study of the history and literature of ornament.

COURSE OF STUDY IN DRAWING FOR NORMAL SCHOOLS—TRAINED TEACHERS NECESSARY—SUITABLE OBJECTS FOR INSTRUCTION REQUIRED.

These considerations require that the instruction in the normal schools should be of a twofold character, one part of the course devoted to the practical study of drawing for the purpose of learning the technical principles and methods of work required, and the other part devoted to the industrial and practical bearing of the study, and to normal methods of teaching.

(The course of study in drawing for public schools and for normal schools, presented by the committee, was printed and distributed to the members. It was made the subject of special discussion, and, with a few modifications in detail, was adopted by the committee. The course of study as adopted by the committee will be found appended to this report.)

RECOMMENDATIONS.

In view of the foregoing, the committee submit the following recommendations:

I.—Normal schools.

The committee recommend that the instruction in normal schools be thoroughly overhauled, where necessary, and faced about; so as to be in a line with the instruction needed in public schools. That the teachers of drawing in normal schools be thoroughly prepared, not only in drawing, but also as to its educational and practical bearings. Without such preparation the instruction will tend, as it has in too many instances, to mere matters of manipulative execution, without any real normal work. The three great needs of the normal schools in drawing are:

A sound course of study.

Teachers of drawing trained in the educational and practical bearing of the subject.

Suitable objects and appliances for instruction.

INSTRUCTION IN THE PUBLIC SCHOOLS.

There can be no improvement in drawing in the public schools until the instruction is placed under the supervision of trained teachers, and until the schools are better supplied with suitable objects for the instruction. It is clear that teachers cannot teach what they do not understand, or if left without the proper facilities for teaching. Until, therefore, the instruction in the public schools is placed under proper supervision, and until the necessary appliances are provided, we may look for a continuance of misdirected and aimless practice.

The three great needs of the public schools are:

1. A sound course of study.
2. Intelligent supervision.
3. Suitable objects for instruction.

JAMES MACALISTER,
Superintendent Public Schools, Philadelphia.
JOSEPHINE C. LOCKE,
Secretary, Supervisor of Drawing, St. Louis.
W. L. GOODNOUGH,
Superintendent of Drawing Public Schools and Director of Art School, Columbus, Ohio.
HERM. HANSTEIN,
Special Teacher, Chicago High Schools.
OTTO FUCHS,
Principal Maryland Institute, Baltimore.

Madison, Wis., *July* 17, 1884.

The report of the committee was accepted and adopted unanimously by the convention.

ABSTRACT OF REPORT OF THE COMMITTEE ON COURSE OF STUDY IN PUBLIC SCHOOLS.

It is the object of the committee, in submitting the following outlines of a course of study in drawing for the public schools, to present the general features of the study in educational order of development, through primary, grammar, and high schools.

Such a course of study is believed to be not only educational in its general character, but also to form a basis for higher technical instruction.

The time required for the course is from one and a half to two hours per week in primary, grammar, and high schools, when under proper supervision. The course is intended to be consecutive and progressive.

Course of study in drawing for public schools.

(Trained supervision necessary.—Suitable objects for instruction required.)

PRIMARY COURSE, FOUR YEARS.—PERCEPTION OF FORM THE BASIS.

Form lessons to be given from geometric solids and objects; the same not only to be seen, but also to be examined and made. Development of the creative faculties. (See details under practical work in normal schools.)	*Pupils trained* to correct position of body, hand, and pencil; freedom of movement in drawing straight and curved lines.	*Drawing* on slates, blackboard, and paper, from objects, copies, dictation, and memory.	*Drawing* of facts of simple solids, and geometric forms of surfaces; pictorial views of objects in two dimensions; arrangements of single forms or units ornamentally.

GRAMMAR COURSE, FOUR YEARS.—ACQUISITION OF PRINCIPLES THE OBJECT.

(The development of the instruction of the primary grade in the subjects of construction, representation, and decoration.)

I. CONSTRUCTION.	II. REPRESENTATION.	III. DECORATION.
Relates to the delineation of geometric and simple objects by two or more views, as top, front, end view, etc.; sections, developments, simple working drawings of common objects in wood, metal, or any material. Execution both free hand and instrumental. Working to scale and geometric problems with instruments.	Relates to pictorial rendering of objects in outline, such as cylindrical, conical, and rectangular solids, and familiar objects placed on a level with, above and below the eye; also at different angles and at different inclinations, singly and in groups. Instruction in this subject mainly from objects. Execution entirely free hand.	Relates to symmetry and proportion in design; arrangement of units along a line, as borders; about a centre, as rosettes; in all directions, as surface decoration. Geometric design; conventionalization in design; historic forms in design. Original arrangements illustrating principles. Execution both free hand and with instruments.

HIGH SCHOOL COURSE, FOUR YEARS.—TECHNICAL APPLICATION OF PRINCIPLES THE OBJECT.

(This course may be elective as to subjects, tending either in the direction of construction, representation, or decoration.)

CONSTRUCTION.	REPRESENTATION.	DECORATION.
Problems in advanced geometry. Problems in orthographic projection. Working drawings. Elements of building and machine construction.	Perspective theory and practice with instruments. Objects and natural forms in light and shade and color. Sketching from nature.	Study of the historic styles of ornament from the flat and the round modelling in clay. Analysis of plant forms from nature and conventionalization of the same. Applied designs in pencil, ink, and color, or any other medium.

NORMAL SCHOOLS.

(Trained teachers necessary.—Suitable objects for instruction required.)

I.—Practical work.

1. Elementary ideas of the facts of geometric forms developed by handling the objects, making them of clay, cardboard, etc., and deriving from them the plane geometric figures.
2. Proper position of the pencil and body, and cultivation of free movement, for slate, paper, or blackboard work.
3. Different elementary methods of presentation:
    - (*a*) From objects.
    - (*b*) From blackboard.
    - (*c*) From copies.
    - (*d*) From dictation.
    - (*e*) Memory drawing.
    - (*f*) Invention or original arrangement.
4. *Construction:*
    - (*a*) Making the simple geometric plane figures and solids of paper or any material.
    - (*b*) Top, front or end views, sections, developments, and details of geometric solids and of common objects.
    - (*c*) Working drawings of common objects, furniture, etc.
    - **(*d*) Architectural drawing.
    - **(*e*) Machine drawing.
5. *Representation:*
    - *(*a*) Placing sticks to make geometric forms.
    - *(*b*) Cutting geometric forms from paper.
    - (*c*) Drawing objects showing but two dimensions.
    - (*d*) Drawing singly, objects in three dimensions; cylindrical, conical, rectangular, etc.
    - (*e*) Groups of objects in outline, with practice in composition.
    - **(*f*) Perspective with instruments.
    - (*g*) Leaves or plants from nature in outline.
    - **(*h*) Models in light and shade.
    - **(*i*) Casts in light and shade.
    - **(*j*) Flowers or plants from nature in color or pencil.
6. *Decoration:*
    - *(*a*) Simple arrangement with sticks.
    - (*b*) Original combinations of units.
    - (*d*) Designs to fill geometric forms, foliage used.
    - *(*e*) Historic ornament, ancient, medieval, and modern styles.
    - (*f*) Botanic analysis for design.
    - *(*g*) Applied design in any medium, for textile fabrics, floor and wall coverings, pottery, wood, metal, or stone work, etc.

Note.—Harmony of color and historic ornament may be taught largely by means of lectures properly illustrated. If, for any reason, it is impossible to take all of the above course, those subjects marked with * may be condensed or treated briefly. Those marked ** may be touched upon briefly or omitted entirely.

II.—Theoretical work.

To be given mainly by talks and lectures.

1. Development of ideas concerning the educational use of drawing in the three stages of mental growth, *perception*, *reception*, *expression*. Also of its practical value in the industrial world.
2. How to develop form from objects.
3. Value and purpose of the different modes of presentation.
4. Materials necessary in drawing, when and how used, slates, paper, blackboard, clay, pencil, eraser, rule, compass, triangle, T square, drawing board.
5. Three parallel lines of instruction—Construction, Representation, Decoration—necessary in a fully developed course as considered from an educational and practical standpoint.
6. Order of presentation:
    1. Through the senses.
    2. Through formulated principles.
    3. Through technical application.
7. Definitions of each:
    - (*a*) *Construction*—Teaching the facts as to dimensions and real shape of objects, and how to make working drawings for the construction of things.
    - (*b*) *Representation*—Teaching how to render objects and things pictorially, or as they appear.
    - (*c*) *Decoration*—Teaching the principles of design, and how to decorate objects.
8. Lectures on the practical application of—
    - (*a*) *Construction*—Illustrated by actual working drawings from the factory or shop and by objects or portions of them.
    - (*b*) *Representation*—Illustrated by good examples in original pictures or reproductions, and by the draughtsman's preparatory sketches for a piece of cabinet work or other structure.
    - (*c*) *Decoration*—Illustrated by pottery forms, wall papers, textiles, etc.
9. Model lessons given by the teacher in the different subjects illustrating the manner of presentation.
10. Model lessons given by the pupils subject to the criticism of the teacher.
11. How to mark or grade examinations in drawing and practice in marking them.
12. How to prepare, pass, collect, and take care of drawing materials.
13. How to handle classes in drawing in the various subjects and in the various grades.
14. Distribution of the course of study in drawing throughout the several grades of schools.
15. Necessary appliances for teaching drawing in the various grades.

Note.—The instruction in theory should accompany the practice, being given in connection with the same

VI.—DRAWING IN BELGIAN SCHOOLS.*

At the second conference a lecture on "the methods of teaching drawing in primary schools in Belgium" was delivered by Monsieur de Taeye, director of the Academy of Fine Arts, Louvain; Lord Reay again presided. The lecturer traced to the influence of the great exhibition of 1851 the change of opinion which had become general throughout Europe that the old method of teaching drawing by "the copy" was radically bad. For the children of the working population, that formed the majority of those attending the primary schools, drawing was not only of equal but of superior importance to any other school subject. The national welfare of an industrial people was involved in it, and that the subject should be rightly taught was, therefore, a necessity in a system of elementary education. Governed by these ideas, the educational programme that came into force under the new Belgian régime, which dated from 1879, provided for the teaching of drawing to the youngest pupils in elementary schools. The lessons in drawing commenced, in fact, simultaneously with lessons in reading and writing with children of six years of age. The general principles of the method adopted are: (*a*) intuitive notions of form and color are first ascertained and developed; (*b*) concrete forms or objects in relief are presented before abstract forms or flat models; (*c*) everything must be understood before it is required to be reproduced or imitated. The instruction is given in four stages.

I. The first year's studies, for children aged from six to seven; (*a*) dots or points in lines, groups, and other combinations; prints cut out of paper and applied as ornaments; (*b*) depths of tone or shading produced by making the dots denser or sparser; (*c*) notions of color, experiments to ascertain the existence of Daltonism—distinctions and denominations of color; (*d*) imitations of common objects in relief; (*e*) straight lines, vertical, horizontal, and oblique—exercises to train the hand to trace straight lines; (*f*) parallel straight lines and their application to ornamentation. Towards the end of the course, when the exercises have become familiar, they are all repeated from memory. The blackboard, the slate, or the paper, respectively, upon which the exercises are worked in the first year, are ruled in squares. All exercises are done with a free hand, no instruments beyond the pen, pencil, or crayon being used.

II. The second year's course for children from seven to nine commences with a recapitulation of the preceding lessons, but the board, slate, or paper is marked with points in place of lines in squares. Curved lines are now introduced, and combinations of straight and curved lines, the object being to induce suppleness and firmness of hand by very copious exercises. Depth of tone and colors again follow in the order of the first year's studies. With the exercises upon common objects in relief, the applications of the curve to the profiles of vases are now explained, and then combinations in Gothic letters and Arabic and other figures are studied. The course finishes with combinations of interlaced bands of straight lines and curves, and, as before, the repetition of the whole of the exercises from memory.

III. The third year of study commences with children of eight years of age, when already the aid of squares and points on the exercise paper is dispensed with. This system of lines and points, called by the Germans *stigmographie*, continues for a year longer in Austria, Germany, and Switzerland, their aid being only dispensed with in those countries at the age of nine. Under the Belgian system the exercise paper is at this stage quite plain, but it is figured on the margin with the divisions of the metrical scale. After the usual recapitulation, the simplest elements, lines, again form the subject of study. Lines in all directions are bisected, trisected, and divided in a given number of equal parts, and the exercises are very numerous. The chief object here is the formation of the *coup d'œil.* The eye is trained to seize accurately at a glance the various relations of lines to each other. Curves are next introduced, firmness of hand, as well as accuracy of glance being developed by the second step. Then follow in the same order as in the previous years tones or shading and color and other ornamentation, and the reproduction of common objects, and, lastly, drawing from memory.

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* From the report in The Schoolmaster of August 2, 1884, of the proceedings of the International Conference on Education held in connection with the Health Exhibition in London.

IV. The last year of studies carries children of ten, eleven, twelve, and sometimes up to fourteen years, on to the study of geometrical drawing and perspective, and it includes both free hand and the use of instruments, but no help is given in aid of measurement by marks on the exercise paper. Solid figures and natural objects of the most complicated forms are now taken, and the finest models of antique art are set before the pupils.

THE SYSTEM IS ECLECTIC.

The system, throughout logical, is a complete negation of the old and vicious system of drawing from "the copy." In its various stages it might be said to be the work of several nations. In England Herbert Spencer had enunciated the principle that intuition should precede instruction. In France Guillaume declared that "the teaching of drawing should be based upon science;" the principles on which the method should be constructed were indicated by a minister of Prussia; to an Austrian, Herr Hillart, was due the credit of formulating the details of such a method; and, finally, to a Belgian, Mons. Germain, was due the honor of practically carrying the system out, with certain modifications, as a portion of the national system of primary education in Belgium.

It is in harmony with the spirit of the instructions given by Herr von Müller, the Prussian minister of instruction, the following passages from which were quoted by the lecturer: "The teaching of drawing has not for its object to produce artists, but to exercise the pupil in the elementary practice of art, to enable him to acquire a knowledge of the laws of form, to give him a quick and sure eye and a firm but light and accurate hand. It is less important that the pupil should draw picturesque objects than that what he draws should be exact." The minister adds that the method ought to be devised in such a manner as to admit of its being carried out successfully by every capable teacher, and from it should be rejected all copies lacking in idea, and especially those productions of mechanically-executed images known to everybody." The aim was not to give a child a special education (they had special professional schools for that purpose), but so to train him that his hand would be apt to whatever it was put. The success attained had been very encouraging, for, although the system was only initiated in 1879, they already found their pupils apt in applying their knowledge to the required practical purposes, and they commonly found that after the fourth year of study a decided bias towards a particular vocation had been implanted, and that when this bias was followed it was rare to find that a mistake had been made in the choice of a profession.

The lecturer was loudly applauded on concluding, and a vote of thanks was accorded on the proposition of Sir P. Cunliffe Owen, who addressed the assembly in French, advocating the establishment in foreign countries of museums on the model of South Kensington, which he strongly urged should be open in the evenings.

APPENDIX F.

GOVERNMENTAL AID TO EDUCATION IN THE INDUSTRIAL AND FINE ARTS, IN GREAT BRITAIN.

I.—Introduction.
II.—Extracts from the thirtieth report (for 1882) of the Science and Art Department.
III.—List of officials.
IV.—History of the Science and Art Department.
V.—National Art Training School, South Kensington.
VI.—The South Kensington Museum.
VII.—The National Art Library.
VIII.—Extracts from the Art Directory; regulations for extending aid to elementary day schools, etc.
IX.—List of Art examples and books, etc.
X.—List of casts.
XI.—Abstract of the thirty-second report (for 1884) of the Science and Art Department.

I.—INTRODUCTION.

Frequent references occur throughout the present Report, to the methods employed by the English Government "to promote instruction in drawing, painting, modelling, and designing for architecture, manufactures, and decoration, especially among the industrial classes."

In accordance with the general plan of the Report, an attempt is made in this appendix to compile, from the several official statements issued by the English authorities, such an abstract, as may serve to show by what instrumentalities and methods, this great work of developing English industrial art is effected.

The English authorities seek to extend to the whole population facilities for elementary and advanced training in industrial art. This development of practical education, continued now for more than thirty years, has resulted in a wonderful improvement in many of the manufactures and industries of the people.

This experiment of training the activities and directing the industries of a whole people into certain definite channels, has, by its marked success, aroused the interest of all the civilized nations of the world. The rival manufacturing countries of Europe have closely studied the English methods, eagerly adopting, or endeavoring to improve upon them. To no people, does the example of England offer more valuable suggestions, than to the citizens of the United States; of the same lineage and possessing much in common, there is no reason why a like experiment should not here result as successfully.

In order to an intelligent understanding of the English methods, especially as considered with a view to obtaining similar results in the United States, it will be necessary to bear in mind the differences of the situation in the two countries.

In the first place, to obtain the requisite similarity of conditions, the comparison should be between England and one of the States of the Union, since the Government of the United States, save in the exceptional instances of the Territories, and of the Indians, has no direct charge of the education of the people; the public school systems, being State, county, city, and town systems.

A State can adopt, as the State of Massachusetts has already practically done, the English methods, modifying them in accordance with its own system of public education; whereas the United States, as a Government, has no such system excepting in the District of Columbia and the Territories. Whether it would be feasible, or advisable, for the Government of the United States to undertake to do for Art, as, by its Observatory, surveys, museums, and its various scientific expeditions and explorations, it has already done for Science; is, possibly, a question worthy of serious consideration.

Other nations have thought the encouragement of the fine arts, and the definite promotion of art industries, worthy the serious attention of rulers and people. Up to the present period in the history of this nation, except so far as some aid to instruction in drawing may have incidentally resulted from the land grants to the colleges of agriculture and the mechanic arts, the United States has done nothing towards the art development of its citizens beyond the occasional purchase of a work of art for the adornment of the Capitol, or of other public buildings, or by an appropriation to erect a monument or statue to some distinguished citizen; always excepting the loan made to the promoters of the Centennial Exhibition at Philadelphia, and the exhibitions there shown by the various Executive Departments, as well as the recent Government exhibits sent to New Orleans. These two acts were, however little intended, definite aids made by the Government to the artistic culture of the people of the United States, and to the development of artistic industries in this country; as such they form most valuable and significant precedents.

The value of the Centennial Exhibition to the people of the United States, as an educator, and as stimulating the development of artistic industries, can hardly be exaggerated.

The United States Government has shown, by its acceptance of the Smithson bequest with its resultant responsibility, and by the creation of the National Museum and the Congressional Library, that it would be possible for the Government in similar ways, without undertaking any direct supervision or control of education, to render important and far-reaching aid to the art development of the people, and to foster and promote the art industries of the country.

What has been done, is suggestive of what may be done in this very desirable direction, though this possible future evolution of the Government hardly seems so immediate as to justify further comment.

As illustrating the differences in the conditions of the two countries, as well as in their methods, a few comparative statistics of area and population are relevant.

Great Britain has, in contrast with the United States, a limited area and a crowded population; Great Britain and Ireland having an area of only 120,832 square miles, with a population of 35,241,482, while England and Wales have a population of 25,974,439, and London, the capital city, has a population of 4,766,661. The United States had in 1880 an area of 2,900,170 square miles and a population of 50,155,783 distributed among 38 States and 9 Territories.

In England all government impulse centers in and radiates from London, the capital city, instead of from many separate centers, as in the United States. Still, in the more populous of the American States, and especially in the manufacturing cities and towns, it is feasible to adopt some of the methods and instrumentalities for the promotion of industrial art training that have proved so successful in the cities and towns of England; while in every district school, throughout the States and Territories, it is perfectly possible to have elementary drawing taught.

So that, notwithstanding the obstacles, resulting from the larger extent of territory and the absence of a single central authority, the several States by independent action can readily secure for their citizens such advantages, at least, of elementary industrial art training, as are now enjoyed by the citizens of Great Britain.

The manner in which the English Government promotes popular education differs widely from the usual American methods, though the Congressional endowment of the Agricultural Colleges with land grants, and the methods adopted by the trustees of the Peabody fund in the distribution of their annual income, both have a few features in common with some of the English methods of affording governmental aid to education.

It may be briefly stated that, while in America, the public schools are supported by public funds, just as all other public expenses are met; in England, the Government assists elementary education by what is known as the grant in aid system. Parliament annually votes a grant of money for this aid, which is administered by a government board known as the Council of Education.

This aid consists virtually of payments made upon the results of examinations by Her Majesty's inspectors, and is paid to the governing bodies of the schools. The term "aid" indicates the fact that it is merely to supplement other resources.

The aid given to the promotion of the study of drawing in the elementary schools, to the art training colleges for teachers, and to the schools and classes of science and of art, is given in a similar manner. Payments are made to the governing bodies of the schools, on the results of examinations held in accordance with the rules, and under the direction and supervision, of the Science and Art Department of the Council of Education.

This is simply in accordance with the customary English method of affording governmental aid to education. It is because of the novel features of this English plan, that extracts, showing in detail the conditions and regulations to be complied with in order to receive this aid, are given from the Art Directory, at greater length than would otherwise seem desirable. The Science and Art Department aids both art and science, and has separate administrative boards for promoting each subject. In this appendix, only that part of the organization and work of this Department which relates to art, is considered.

The Science and Art Department publishes annually a large report, with appendices; comprising a full account by the separate boards of their varied work, and a list, with statistics of attendance and pupils' work, of all the institutions under their care, or aided by them.

The Annual Report is a blue book containing several hundred closely printed pages, and is on sale, as are all English blue books; the price, varying of course, with the cost of issuing the volume. The thirtieth annual report (1883), largely quoted in this appendix, is a book of about 800 pages and on sale at 4*s.* 6*d.*

The Department publishes each year an "Art Directory," a pamphlet of some 100 pages, containing all the regulations, which apply to art schools and classes, etc., price 6*d.*; also a similar "Science Directory." A larger book, called a "Calendar and General Directory," containing a part "of the statistical and other information" formerly given in the Annual Reports, was issued in 1884 as "a supplement to the Thirty-first Report," price 1*s.* The Annual Report is, hereafter, to comprise only an account of the work of the year; the "Calendar and General Directory" giving "general information as to the history, organization, and functions of the various branches of the Department."

From the two latest annual reports, the thirtieth and the thirty-first, published in 1883 and in 1884, each for the year preceding; from the Calendar and General Directory of 1885, and from the Art Directories, the facts given in this appendix have been collated. The latest statistics and changes are given.

The aid to the elementary schools; the payments to the art schools and to art classes; the National Art Training School at South Kensington, after which the Massachusetts Normal Art School was partly modelled; the other schools for training art teachers; the art collections in the South Kensington Museum; the great National Art Library at South Kensington, with the system of circulation by which art examples and books are lent to art schools, or to local art loan exhibitions; comprise the principal means employed for promoting art instruction. In addition, there are many and liberal prizes and scholarships to be competed for. The names of all art masters and of all successful prize pupils are printed in the register; so that, to every successful competitor, there is an added value given to the certificates and prizes of the Department. Lists of such books, casts of sculpture, and of other material for use in drawing, etc., as are approved by the Department, are given in the register, with the cost prices affixed. (In the absence of any similar central authority as to materials and books suitable for use in Art Education, and of any such approved manufactures of authentic art casts in the United States, copies of the most recent lists are included in this appendix.)

Thus, by money grants, by providing or aiding to provide all needed facilities for the work of the schools and classes; by careful and constant supervision of the instruction given; by appealing to the personal motives of emulation and self interest, of both teachers and pupils; as well as by affording to the public generally, and especially to artizans, abundant opportunities of seeing and studying, in museums, and loan exhibitions, the best examples of the art work of all countries and eras; the industrial art training of the English people is stimulated and promoted.

The sums annually granted by Parliament for these purposes, and the large amounts ungrudgingly granted for the increase of the collections of the museums, and of the National Art Library, show that this phase of education is supported by a liberal and earnest public sentiment. That the English people think it advisable to make such efforts and to incur such large expenditure, solely for the promotion of their art education, may well give to American legislators and citizens, food for thought.

II.—THIRTIETH REPORT

OF THE

SCIENCE AND ART DEPARTMENT

OF

THE COMMITTEE OF COUNCIL ON EDUCATION.*

To the Queen's Most Excellent Majesty:

May it please Your Majesty: We, the Lords of the Committee of Your Majesty's Privy Council on Education, humbly present to Your Majesty this our report of the Science and Art Department for the year 1882.

The report is arranged under the following heads:

I.—Aid given towards the promotion of instruction in science.
II.—Aid given towards the promotion of instruction in elementary drawing as a part of national education, and in fine art as applied to industry.
III.—The administration of the South Kensington Museum, the central repository for objects of science and art, which, as far as practicable, are circulated throughout the United Kingdom.
IV.—The Branch Museum at Bethnal Green.
V.—Other museums, supported by the State through the Science and Art Department.
VI.—The Geological Survey.
VII.—Institutions and societies which receive aid from the State through the Science and Art Department.
VIII.—Summary.

I.—SCIENCE DIVISION.

* * * * * * *

II.—ART DIVISION.

AID GIVEN TOWARDS THE PROMOTION OF INSTRUCTION IN ELEMENTARY DRAWING AS A PART OF NATIONAL EDUCATION, AND IN FINE ART AS APPLIED TO INDUSTRY.

NATIONAL ART TRAINING SCHOOL.

11. During the year 1881–'82 39 students in training to become art teachers and 16 national scholars in training to become designers or art workmen, received allowances to enable them to study in the school and museums. Most of these were selected from provincial schools. The number of students admitted on payment of half fees was 38; and 114 others, including the students in training, the national scholars, and 13 men of the corps of royal engineers, received gratuitous instruction.

At the annual examinations for advanced or third grade art certificates, held in 1882, 22 students of the training school obtained twenty-four certificates qualifying the holders of them to earn payments from the department as teachers in schools of art.

The fee-paying students of the school won 1 gold, 6 silver, 11 bronze medals, and 17 Queen's prizes, in the national competition, besides 116 third grade prizes for works sent in for examination. The students in training and national scholars won in the same competition 2 gold medals, 8 silver medals, 20 bronze medals, and 24 Queen's prizes of books.

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* Thirtieth report of the Science and Art Department of the Committee of Council on Education, with appendices, presented to both houses of Parliament by command of Her Majesty. London: Printed by George E. B. Eyre and William Spottiswoode, 1883, pp. CXII.—635. Price 4*s*. 6*d*.

The total number of students was 728, of whom 327 were males and 401 females (being a decrease of 31 on the number in the previous year); and the fees received amounted to £3,247 3*s.*, the day students paying £2,978 14*s.* and the evening students £268 9*s.*, showing an increase of £180 14*s.* on last year.

SCHOOLS OF ART.

12. New schools of art have been established during 1882, at Canterbury, Chelsea, Dundee, Hornsey, Huddersfield, Peterborough, Scarborough, Stoke Newington, Tiverton, Weston-super-Mare, and a branch class at Darlington. The total number of schools of art in operation throughout the kingdom was 169, and 13 branch classes. The total number of students in these schools and their branch classes was 33,729, as against 160 schools, 11 branch classes, and 31,592 students in 1881.

At the annual examination in April, 1882, 21,291 students submitted 211,748 drawings or models; the corresponding number in 1881 having been 19,940 students, and 197,043 works, so that the annual increase reported in previous years is still maintained. In this examination 18,745 students, on account of whose instruction payments were made to the committees of the schools, were of the industrial classes. The annual examinations in second grade drawing were attended by 11,716 students of schools of art, of whom 5,501 were successful, and 1,517 obtained prizes, showing increases of 980 and 337 respectively.

The amount of the fees paid by students in schools of art and of the payments on results in the last three years are respectively as follows:

	1880.	1881.	1882.
Fees	£36,467	£35,452	£39,198
Payments	17,091	16,415	16,978

13. The number of works collected for the national competition was 1,313, composed of drawings from the antique, designs, and studies in light and shade or colour, being 95 more than in 1881, when the number was 1,218.

The report of the examiners will be found in Appendix D, page 484.

ART CLASSES.

14. The number of students was 21,215 in 545 classes, the corresponding numbers in 1881 having been 23,026 in 584 classes, and, in 1880, 26,646 students in 632 classes. The decrease in 1881 and 1882 is chiefly due to the requirement of higher qualifications on the part of art class teachers, and to some of the larger art classes having been each year converted into schools of art. The number of students in art classes who attended the second grade examination in May, 1882, was 9,988, of whom 3,248 passed the examination, and 767 obtained second grade prizes, while 341 obtained prizes for works sent up for inspection. The total number of works sent up from art classes for the examination in April was 157,583 by 12,165 students, as against 168,720 works and 13,187 students in 1881. The total amount granted to art classes was £5,840 5*s.*, including the cost of prizes and aid towards the purchase of art examples. The corresponding total in 1881 was £5,775 2*s.* 6*d.*

SCIENCE CLASSES.

15. From 282 science classes 63,401 works by 5,802 students were sent to the Department for examination in May, 1882; 136 of these students obtained prizes, and the total amount granted by the Department in aid of art instruction in such classes was £1,902 3*s.* 10*d.*, the corresponding totals for 1881 being 260 classes, 57,692 works sent up by 5,092 students, of whom 203 obtained prizes, and £2,049 12*s.* 8*d.* was the total amount of the grants.

UNAIDED SCHOOLS AND PRIVATE STUDENTS.

16. Examinations in elementary drawing, for prizes and certificates only, were held in 157 schools unaided by payments from the Department; 2,074 pupils of these schools were examined in first grade drawing, and 3,912 in second grade. Besides these pupils of schools, 5,937 candidates not belonging to any school or class connected with the Department, were examined in second grade drawing. Of the total number of 11,923 candidates on account of whose examination no payments have been made 3,332 were successful and 613 obtained prizes at a cost of £293 19*s.* 8*d.*

ELEMENTARY SCHOOLS.

17. In 4,812 elementary schools 842,100 children and pupil-teachers were taught drawing, and 572,188 children and 12,373 pupil-teachers were examined at the annual

examinations in 1881–'82. These numbers, compared with those of 1880–'81, present a decrease of 285 schools, 8,463 children taught, and 59,520 children and 1,255 pupil-teachers examined. The total amount of the grants on results in elementary schools in 1881–'82 was £31,304, showing a decrease of £322, on the amount granted in the previous year.

The apparent decrease in the number of schools and children is chiefly due to the operation of the new rule referred to in our last report (p. xiii, par. 14) under which these examinations of elementary schools are no longer held simultaneously, but from time to time throughout the year; and as this rule only came into force late in October, 1881, and the school year, for this purpose, ends on 31st August, the numbers given in this report and in Table A, at p. 356 of the appendix, are for ten months only.

TRAINING COLLEGES FOR ELEMENTARY SCHOOL TEACHERS.

18. At the examination of 48 training colleges, in November, 939 students in training, teachers, and pupil-teachers obtained certificates for drawing. The total amount granted to the training colleges was, £1,188 10*s.* being £26 10*s.* less than in 1881, when the total was £1,215.

GRANTS.

19. The sum granted in 1881 towards the cost of purchasing art examples, &c. was £1,246, and in 1882, £1,519, showing an increase of £283 in the latter year.

TOTAL NUMBER OF PERSONS INSTRUCTED.

20. The grand total of persons taught drawing, painting, or modelling through the agency of the Department have been as follows during the last three years:

1880	837,308
1881	917,101
1882	909,216

PAYMENTS.

21. The following table shows the number of separate payments made on the results of examination:

Nature of payments.	1880.	1881.	1882.
First grade: 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.*, and 5*s.* on account of children taught and examined in elementary day schools	566,308	427,592	425,528
Second grade: 10*s.* on account of students in schools of art and art classes; pupil teachers in elementary day schools, and students in training colleges	19,758	14,316	15,624
Local advanced art examination, £1, £2, or £3 per student successful	289	166	234
Third grade: 15*s.* on account of elementary works executed in schools of art, art classes, and science classes	3,717	3,157	*2,425
Third grade: 20*s.* on account of advanced works executed in art classes	78	82	54
Third grade: 40*s.* on account of advanced works executed in schools of art and in science classes	1,130	1,018	*1,014
Third grade: £3 on account of free studentships in schools of art	150	166	171
Third grade: payment of £5 for each student prepared for a national scholarship	4	4	6
Third grade: payment of £5 for each student obtaining an art class teachers' certificate	....	15	24
Third grade certificate: £10 for each student obtaining an art teacher's certificate	33	30	10
Total	591,467	446,546	445,090

* These are the numbers of those students who earned full payments under the rules of the directory with the addition of one payment to each school for those students who earned less than the full grant.

22. Further details relating to instruction in art are given in the report of Mr. H. A. Bowler, at page 348, and in the tables, &c., which follow it.

III.—SOUTH KENSINGTON MUSEUM.

THE BUILDINGS.

23. The architectural court, which was completed and opened in the summer of 1873, provided for the reception of several large objects, and permitted the whole of the reproductions in plaster, &c., to be grouped together. Since 1876 new buildings have been in progress, designed to provide accommodations for the libraries and for some portions of the art museum collections. These buildings were not completed until the close of 1882, and the furniture and fittings have still to be provided.

Portions of the museum collections have continued to be exhibited in the buildings surrounding the horticultural gardens, chiefly the property of Her Majesty's commissioners for the exhibition of 1851. Various changes have, however, occurred during the period in the appropriation of these buildings. A considerable portion of the southern range has been given up for the use of the national portrait gallery, and the eastern gallery with the Indian collections have been transferred to the department.

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THE ART MUSEUM.

25. At the end of 1872 the number of original objects in the art museum acquired by gift, bequest, or purchase was 20,186, and the sum expended in their purchase had been £186,928 0*s.* 1*d.* At the end of 1882 the number of objects is 33,561, while the total sum expended in purchases has been £266,987 3*s.* 8*d.*, showing an increase in the number of objects of 13,375. Of these the gifts and bequests received during the ten years number 3,748, and the purchases 9,627, for which the sum of £80,059 3*s.* 7*d.* has been paid.

GIFTS AND BEQUESTS.

26. Among the gifts and bequests to the art museum we may refer again to four recorded in previous reports, that of Mr. William Smith, already a liberal benefactor of the museum, who, in 1876, bequeathed 136 water-color drawings of the English school, thus strengthening an important section almost entirely made up of free gifts to the nation. In 1877 the Shah of Persia, after a visit to the museum, sent a collection of carpets and other textile fabrics in illustration of the modern industrial arts of his Empire. In 1878 Mr. George Mitchell bequeathed 121 snuff boxes, several other objects in precious metals, and 15 oil paintings. In 1881 the under secretary of State for the fine arts in France presented, in the name of his department, some fine examples of modern Sévres porcelain and tapestry from the national manufactories.

The year just closed has seen the important addition to the collections of the Jones bequest, of which details are given in the director's report in the appendix, page 512. As is there pointed out, this bequest enables the museum to make a worthy representation of the industrial arts of France in the eighteenth and the closing years of the seventeenth century, good examples of which are so eagerly competed for whenever they come into the market, that the Parliamentary grants at our disposal for purchases would have been wholly insufficient for the purpose. Indeed in one class, that of Sévres porcelain, the only important examples which the museum has had to exhibit were those which by your Majesty's gracious permission, were lent from Buckingham Palace.

The bequest of Mr. Arthur Wells of his fine collection of carved jade, crystal, &c., also received in 1882, is a valuable addition to the Chinese division of the museum, hitherto weak in this class of art workmanship.

LOANS.

27. As in former years, the museum has been largely indebted to the generosity of owners of fine examples of art for numerous important loans. Several special loan exhibitions have also been held: in 1873 one of decorative art needlework; in 1874, enamels on metal; in 1881, Spanish and Portuguese art, and in 1882, Danish, Swedish, and Norwegian art. From 1877 to 1880 the space usually assigned to these exhibitions was occupied by Dr. Schlieman's collection from his excavations at Hissarlik in the Troad.

PURCHASES.

28. Under the head of purchases occasion has been taken to strengthen various subdivisions. With the valuable aid of Col. Murdoch Smith, a very complete series of illustrations of all branches of art in Persia, from the tenth to the eighteenth century, has been secured; some fine specimens of ancient carved window screens and

other woodwork from Cairo and a complete room from Damascus have also been acquired. Japanese art, chiefly in bronze and pottery, very imperfectly represented before 1873, is now an important section. Mediæval goldsmiths' work, Limoges enamels, Spanish metal work, and textiles, and English plate have also been largely added to, and the already large collection of Italian sculpture in marble and bronze has been enriched by several remarkable examples.

REPRODUCTIONS.

29. Many important additions, numbering altogether 475 examples, have been made during the last ten years to the series of electrotype reproductions of gold and silversmiths' work. To various colleges at Oxford and Cambridge, to Inns of Court, Ctiy Companies, and Provincial Corporations, we have been greatly indebted for permission to take copies of some of the finest existing examples of English plate of the fifteenth to the eighteenth centuries, not merely for exhibition in the museum, but for loan to provincial museums, &c. By facilities rendered by various corporations in Holland and by His Majesty the King of Portugal, the Academy of Fine arts in Lisbon, and various ecclesiastical authorities in Portugal, we have also been enabled to add copies of fine examples of goldsmiths' work in those countries. The large group of reproductions from Russia, mentioned in our twenty-eighth report as about to be undertaken, will not be completed until the summer of 1883. Copies of plate in Denmark, Norway, and Sweden are also in progress.

GALLERY OF CASTS.

30. In our last report we stated that we had taken measures for carrying out the long projected gallery of casts of ancient classical sculpture. A small but fairly complete series of casts has now been acquired under the advice of the committee then referred to, and a portion of the new buildings has been appropriated for their exhibition. This, it is hoped, will be opened in the course of 1883. Mr. Walter C. Perry, to whose knowledge and exertions the collection owes so much, has been invited to prepare a descriptive catalogue.

EAST INDIAN SECTION.

31. In our twenty-seventh annual report, that for 1879, we recorded the circumstances under which the great collection representing the arts of the Indian Empire and occupying the range of buildings on the eastern side of the horticultural gardens, had been by the Secretary of State for India in Council transferred to the Science and Art Department, henceforth to form an integral part of the South Kensington Museum. Since the reopening of these galleries by your Majesty, on the 15th May, 1880, a large addition, chiefly illustrating Indian art at the present day, but also comprising some remarkable examples of domestic architecture, has been acquired, for which space cannot as yet be found in the galleries. We have therefore directed that a portion of the new buildings shall for the present be appropriated for a special exhibition of modern Indian art and domestic architecture. In the acquisition of these we have had the hearty co-operation of the India office, by which a considerable part of the cost has also been borne. We have secured the aid of several gentlemen intimately acquainted with India as a committee of advice and reference for this section.

ART CIRCULATION.

32. It is, perhaps, under art circulation that the greatest advance in the action of the museum has been made during the last ten years. In each annual report for some years past its growing importance, and the increasing urgency of the claims of provincial museums and schools of art for loans have been dwelt upon, and in 1880 we caused "a report on the system of circulation of art objects on loan from the South Kensington Museum as carried on by the Science and Art Department from its first establishment to the present time," to be prepared, and this report was, by command of your Majesty, presented to both Houses of Parliament in the session of 1881 [C. — 2836]. It is therefore unnecessary to give full details here. The minute of the 17th June, 1880, extending the system of loans to corporation museums, has been found to work well. The tables in the appendix, page 551, give a full summary of the results during 1882 of the whole system of art circulation, by which the advantages of the museum collections are extended to every part of the Kingdom where any real desire exists to participate in them.

PAINTINGS AND WATER-COLOR DRAWINGS.

33. The chief additions to paintings and water-color drawings have been from the bequests already noted. A few typical examples of English art have been purchased each year, and chronological arrangement has been more strictly observed by the amal-

gamation of the Ellison and Smith galleries. Under this head may fitly be noticed the great fresco "The Arts of War," by Sir Frederick Leighton, P. R. A., completed in 1879, one of the most important and attractive features of the museum. The companion fresco, "The Arts of Peace," will be commenced by Sir Frederick Leighton this year.

NATIONAL ART LIBRARY.

34. Each annual report has recorded the additions made to the various divisions of the National Art Library. The following is a summary:

	Up to 1872.	1873 to 1882.	Total now in library.
1. Books on art	36,000	21,887	57,877
2. Original drawings	6,918	15,105	22,023
3. Prints, engravings of ornament, &c	35,193	46,341	81,534
4. Photographs	39,439	18,711	58,150
Total	117,550	102,044	219,594

* * * * * * *

All publications on art, British and foreign, have, as far as possible, been added to the library when issued; the older works necessary to complete the various classes into which the collection is divided being acquired as opportunity offers. Thus the series of the rare and artistic lace pattern books published in the sixteenth and seventeenth centuries has now been made one of the most complete existing in any public library. The collection illustrating early book ornament, initial letters, title pages, &c., has also become important, as has also that dealing with the works, now much sought for, of the book illustrations of the eighteenth century. A valuable collection of books, pamphlets, and illustrations of pageants, gathered during upwards of twenty years in the various countries where they appeared, was lately acquired. Works illustrating costume have also been sought for, and this series is now extensive and fairly complete.

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PUBLICATIONS.

36. The publications have been enumerated in the annual reports. Large illustrated catalogues, with historical introductions, of the maiolica, furniture, and wood-work, bronzes, gold and silver smiths' work, glass vessels, water color drawings, musical instruments, fictile ivories, and Swiss coins (Townshend collection), have been issued for the department by the stationery office since 1873. In order to bring the information contained in these within the reach of all classes of art students, a series of illustrated hand books on various branches of art has from 1875 onwards been issued by Messrs Chapman and Hall, Limited, under our authority, several of which are based on the historical introductions of the catalogues already mentioned, while others are original works. Some science hand books in the same form have also been issued. These publications are sold at the catalogue stall in the museum and in institutions connected with it, at 1 shilling each. Thirty-three volumes have thus been published, and the sale has been considerable.

EDUCATIONAL COLLECTIONS.

37. The library and collections of school furniture and fittings and other educational apparatus comprised under the educational division, were originally intended to form one group, illustrating all appliances used in education, from models of buildings, examples of desks, seats, &c., to books for school use. They have, however, been widely separated, owing to lack of suitable space. The (educational) library has grown to dimensions far beyond what was at first contemplated. It at present contains 45,099 volumes. A table, on page 522, shows the number under each subject. The present reading room, the third since the formation of the division in 1857, though slightly built for temporary use, is fairly well suited to its purpose. The number of readers during the past 10 years has been 218,625, an average of 21,862 per annum. The collection of school furniture is at present crowded into very unsuitable quarters in the corridors, &c., of the exhibition galleries, and when a better position can be found it will require considerable revision. We have invited the co-operation of a committee of gentlemen conversant with educational requirements, who will examine and report on this division.

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VIII.—SUMMARY.

ATTENDANCE ON SCHOOLS AND CLASSES OF SCIENCE AND ART.

60. The numbers of persons, who have, during the year 1882, attended the schools and classes of science and art in connection with the Department, are as follows, viz: 68,581 attending science schools and classes in 1882, as against 61,177 in 1881, and 909,216 receiving instruction in art, showing a decrease upon the previous year of 481.

* * * * * * *

64. The total number of persons, therefore, who receive direct instruction as students, or by means of lectures in connection with the Science and Art Department in 1882, is 986,085, showing an increase of 1,235 as compared with the number in the previous year.

READERS IN LIBRARIES.

65. The attendance at the Art and Educational Libraries at South Kensington and at the National Library of Ireland, in 1882, has been 85,837, or an increase of 888 over that of last year.

VISITORS TO MUSEUMS.

66. The museums and collections under the superintendence of the Department in London, Dublin, and Edinburgh, were last year visited by 2,476,049 persons, showing an increase of 11,511 on the number in 1881. The number of visitors to the South Kensington Museum shows a decrease of 55,298, the numbers being 1,017,024 for 1881, and 961,726 for 1882.

67. The returns received of the number of visitors at the Local Art and Industrial Exhibitions, to which objects were contributed from the South Kensington Museum, show an attendance of 1,553,083.

TOTAL ATTENDANCE.

68. The total number of persons who, during the year 1882, attended the different institutions and exhibitions in connection with the Department, has been upwards of 5,015,217. This total, compared with that of the previous year, presents an increase of 203,959 persons.

EXPENDITURE.

69. The expenditure of the Department during the financial year 1882-'83, exclusive of the vote for the geological survey, which was £18,536 17*s.* 4*d.*, amounted to £326,826 17*s.* 3*d.*

70. As 30 years have now elapsed since Your Majesty was graciously pleased, in Your Majesty's speech from the throne, at the opening of the parliamentary session in the year 1853, to indicate that a comprehensive scheme for the advancement of the fine arts and of practical science would in that year be submitted to Parliament, we have deemed this to be a fitting opportunity for submitting to Your Majesty a statement, showing the progress and development of the Department during that period. This paper immediately follows our report.

All which is humbly submitted to Your Majesty.

South Kensington, this 21st day of May, 1883.

[L. S.] (Signed) CARLINGFORD.
A. J. MUNDELLA.

(Signed) J. F. D. DONNELLY,
Assistant Secretary.

III.—OFFICIALS

OF THE

SCIENCE AND ART DEPARTMENT

OF

THE COMMITTEE OF COUNCIL ON EDUCATION,

SOUTH KENSINGTON.*

Established in connection with the Board of Trade in March, 1853, as a development of the Department of Practical Art, which in 1852 had been created for the reorganization of Schools of Design. Placed under the direction of the Committee of Council on Education in 1856.

COMPLETE LIST OF PRESIDENTS AND VICE-PRESIDENTS.

Board of Trade:

1852. Rt. Hon. H. Labouchere, M. P.
1852. Rt. Hon. J. W. Henley, M. P.
1853. Rt. Hon. Edward Cardwell, M. P.
1855. Rt. Hon. Lord Stanley, of Alderley.

Committee of Council on Education:

1856. Rt. Hon. Earl Granville, K. G., lord president.
1856. Rt. Hon. W. E. Cowper, M. P., vice-president.
1858. Most Hon. Marquess of Salisbury, K. G.
1858. Rt. Hon. Sir C. B. Adderley, K. C. M. G., M. P.
1859. Rt. Hon. Earl Granville, K. G.
1859. Rt. Hon. Robert Lowe, M. P.
1864. Rt. Hon. H. A. Bruce, M. P., vice-president.
1866. His Grace the Duke of Buckingham and Chandos.
1866. Rt. Hon. H. T. Lowry Corry, M. P.
1867. His Grace the Duke of Marlborough, K. G.
1867. Rt. Hon. Lord Robert Montague, M. P.
1868. Most Hon. Marquess of Ripon, K. G.
1868. Rt. Hon. W. E. Forster, M. P.
1873. Rt. Hon. Lord Aberdare.
1873. Rt. Hon. W. E. Forster, M. P.
1874. His Grace the Duke of Richmond and Gordon, K. G.
1874. Rt. Hon. Viscount Sandon, M. P.
1878. Rt. Hon. Lord George Hamilton, M. P., vice-president.
1880. The Earl Spencer, K. G.
1880. Rt. Hon. A. J. Mundella, M. P.
1883. The Rt. Hon. Lord Carlingford, K. P.
1883. The Rt. Hon. A. J. Mundella, M. P.
1883. Secretary Sir Francis R. Sandford, K. C. B.
1884. Secretary Colonel Donnelly, R. E.

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* Only the complete list of the Presidents and Vice-Presidents of the Department, from its first inception, and of the Acting Staff of the Art Division, the latter as given in the 1885 Calendar, are included. The staff of the General Administration, numbering some 46 persons; the staff of the Science Division, numbering some 76 persons; with some 52 other persons connected with the Geological Survey, the Royal College of Science in Dublin, the Trustees of the National Library, etc., are omitted.—EDITOR ART REPORT.

LIST OF OFFICIALS AND INSTRUCTORS OF THE ART DIVISION IN 1885.*

Art division. Staff 1885.

Director.—T. Armstrong.
Assistant Director.—H. A. Bowler.
Official Examiner.—T. Chesman, B. A., LL. B.
Assistant Examiner.—J. A. D. Campbell.
Art Examination Clerk: M. Webb.

Professional Examiners for Art, 1884.—(1) For the *National Art Competition:* E. J. Poynter, R. A.; G. D. Leslie, R. A.; W. F. Yeames, R. A.; H. S. Marks, R. A.; J. E. Boehm, R. A.; G. Aitchison, A. R. A.; H. Thornycroft, A. R. A.; W. Morris; J. J. Stevenson; Walter Crane, and W. C. Unwin, B. Sc.

(2) *For Art Masters' Certificates:* C. W. Cope, R. A.; J. Marshall, F. R. S., F. R. C. S.; Dr. Zerffi; T. Roger Smith; W. J. Glenny.

Occasional Examiners.—Eyre Crowe, A. R. A.; E. Bellamy, F. R. C. S.; W. B. Scott, A. F. Brophy; D. W. Raimbach; J. S. Rawle, F. S. A.; J. Harrison; G. M. Atkinson; G. R. Redgrave; S. Nesbitt; W. W. McCarty; W. Hepworth; J. I. Williamson.

NATIONAL ART TRAINING SCHOOL.

Visitor.—E. J. Poynter, R. A.
Principal.—J. C. L. Sparkes.
Registrar.—Col. Sussex W. Lennox.
Mechanical and Architectural Drawing: H. B. Hagreen.
Geometry and Perspective: E. S. Burchett.

Painting, Free Hand Drawing of Ornament, &c., the Figure and Anatomy, and Ornamental Design: T. Clack; F. M. Miller; G. Morton; W. P. Watson; W. Norris; T. W. Cole.

Modelling: E. Lantéri; F. M. Miller; R. Stark.
Lady Superintendent of Female Classes.—Miss Trulock.
Instructors.—Mrs. Casabianca; Miss Channon.
Lecturer on Decorative Art.—H. Stannus.

Occasional Lecturers.—On Anatomy: Edward Bellamy, F. R. C. S. *On Historic Ornament:* Dr. Zerffi. *On Chemistry of Paints and Painting:* Prof. A. H. Church, M. A., F. C. S.

INSPECTION.

Inspectors of Local Schools of Science and Art.—R. G. Wylde; Capt. W. de W. Abney, R. E., F. R. S.; F. B. Barwell; C. A. Buckmaster, M. A.

Occasional Inspectors for Science.—J. Norman Lockyer, F. R. S.; A. Sheridan Lea, M. A.

Occasional Inspector for Navigation.—Captain Harris, E. I. C.
Occasional Inspector for Art.—Eyre Crowe, A. R. A.
Organizing Master of Science and Art Classes.—J. C. Buckmaster, F. C. S.

SOUTH KENSINGTON MUSEUM AND BETHNAL GREEN BRANCH.

Director.—Sir P. Cunliffe Owen, K. C. M. G., C. B., C. I. E.
Assistant Directors.—R. A. Thompson; Lieut. Col. E. R. Festing, R. E.
Director of New Buildings.—
Decorative Artist.—R. Towuroe.

Museum Keepers—(*Art Collections*), G. Wallis, F. S. A.; (*National Art Library*), R. H. Soden Smith, M. A., F. S. A.; (*Educational Library and Collections*), A. C. King, F. S. A.; (*Indian Collections*), C. Purdon Clarke, C. I. E.; (*Machinery and Inventions*), Lieut. Col. A. H. P. Stuart Wortley.

Assistant Museum Keepers.—W. Matchwick, F. L. S.; H. Sandham; R. Laskey; R. F. Sketchley, B. A., Exeter College, Oxford; H. E. Acton; J. W. Appell, Ph. D.; J. Barrett, B. A.; C. H. Derby, B. A.; H. M. Cundall; A. B. Skinner, B. A.

Junior Assistants.—R. F. Martin; W. W. Watts.

Special and Technical Assistants.—W. E. Streatfeild; A. Reid; F. Coles; W. G. Johnson; F. P. Macaulife; O. S. Scott; W. J. Hill; W. T. Key; W. Wallis.

Superintendent for Examples and Publications.—J. H. Cundall.

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* Calendar and General Directory of the Science and Art Department for the year 1885. Being a supplement to the thirty-second report, London, printed for Eyre and Spottiswoode, 1885, pp. 225, price, 1s.

EDINBURGH MUSEUM OF SCIENCE AND ART.

Director.—Prof. T. C. Archer, F. R. S. E.
Keeper of Natural History Collections.—Prof. R. H. Traquair, M. D., F. R. S.
Curator.—Alexander Galletly.
Assistant in Natural History Museum.— J. Gibson.
Assistant in Industrial Museum.—W. Clark.
Clerks.— C. N. B. Muston; T. Stock; A. B. Steele.

SCIENCE AND ART MUSEUM, NATIONAL LIBRARY, SCHOOL OF ART, AND BOTANIC GARDENS, DUBLIN.

Visitors of the Science and Art Museum and Botanic Gardens.—The Duke of Leinster; the Earl of Rosse, F. R. S.; Lord Ardilaun; Sir R. Kane, M. D., F. R. S.; Sir S. Ferguson, Q. C., LL. D.; Rev. J. H. Jellett, D. D., Provost T. C. D.; the Viscount Powerscourt, D. L., K. P.; C. Uniacke Townshend, Esq.; Samuel F. Adair, Esq., J. P.; G. W. Maunsell, Esq., D. L.; G. F. Fitzgerald, Esq., F. T. C. D., F. R. S.; G. Johnstone Stoney, Esq., D. Sc., F. R. S.

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SCHOOL OF ART.

Head Master.—R. E. Lyne.
Second Master.—F. Luke.
Principal Mistress.—Miss M. Julyan.
Occasional Lecturers.—Prof. Alexander Fraser, *Artistic Anatomy;* W. R. M'Nab, M. D., F. L. S., *Botany.*—
Clerk and Registrar.—G. S. Watts.

ROYAL HIBERNIAN ACADEMY.

Secretary.—B. Colles Watkins, R. H. A.

IV.—HISTORY

OF THE

SCIENCE AND ART DEPARTMENT

OF

THE COMMITTEE OF COUNCIL ON EDUCATION,

SINCE ITS CREATION.

ORIGIN OF DEPARTMENT.

1. In the year 1835 a select committee of the House of Commons was appointed, on the motion of Mr. William Ewart, M. P. for Liverpool, "to inquire into the best means of extending a knowledge of the Arts and of the Principles of Design among the people, especially the manufacturing population of the country." The inquiry was continued in the sessions of 1836, and the committee recommended the establishment of Schools of Design. In accordance with this recommendation, a proposal was made to the Treasury by the Lords of the Committee of Privy Council for Trade, dated 11th July, 1836, that a sum of £1,500 should be taken in the estimates for the establishment of a Normal School of Design, with a Museum and Lectures. The Treasury having consented, the President of the Board of Trade, Mr. Poulett Thompson, presided at a meeting held on the 19th December, 1836, at the Board of Trade, of certain Royal Academicians and others interested in art, which provisional body, early in 1837, was constituted the "Council of the Government School of Design," the members being unpaid, and the Vice-President of the Board of Trade being an *ex officio* member of the Council. Rooms in Somerset House, which had formerly been occupied by the Royal Academy, were granted to the Provisional Council, and the School opened on the 1st of June, 1837. In 1841 the Government decided to afford assistance towards the formation and maintenance of Schools of Design in the manufacturing districts, giving an annual grant for the training and payment of teachers, for the purchase of casts, and the preparation of models for the use of those Schools.*

CENTRAL SCHOOL OF DESIGN.

2. In 1842 the Board of Trade reconstituted the Council, increasing the number of members to 24, and placed the School of Design under the management of a Director, controlled by the Council, which body was itself to be controlled by the Board of Trade. The Parliamentary Vote for "Schools of Design," which was administered by that Department, had increased in 1851-'52 to £15,055; the branch schools in such centres of industry as Manchester, Birmingham, Glasgow, Leeds, and Paisley were then seventeen in number, the expenditure on them absorbing nearly one-half of the vote.

DEPARTMENT OF PRACTICAL ART.

3. An inquiry into these schools by a Select Committee of the House of Commons in 1849 showed that they were not working satisfactorily. New principles of management were therefore adopted in 1852 by the President of the Board of Trade, Mr. La-

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* For a contemporary history of the efforts preceding the action by Parliament, with an account and criticisms of the methods adopted, see Paper VI, Appendix A, of this Report.—EDITOR ART REPORT.

bouchere, and subsequently Mr. Henley. The Council was abolished, and a "Department of Practical Art" was constituted, with a General Superintendent (Mr. Cole) and an Art Adviser (Mr. Redgrave). The scope of this Department was enlarged in 1853 by the Government of Lord Aberdeen, Mr. Cardwell being then President of the Board of Trade.

4. In the Speech from the Throne at the opening of Parliament that year Her Majesty stated that "The advancement of the Fine Arts and of Practical Science will be readily recognized by you as worthy the attention of a great and enlightened nation. I have directed that a comprehensive scheme shall be laid before you, having in view the promotion of these objects, towards which I invite your aid and co-operation."

DEPARTMENT OF SCIENCE AND ART.

A Science division was added, and the "Department of Science and Art" was created. The title of the Chief Executive Office was successively changed to Joint Secretary (with Dr. Playfair), and Inspector and Inspector General.

5. The Department remained under the control of the Board of Trade until 25th February, 1856, when by an Order in Council the Education Department was constituted to include: "(*a.*) The Education Establishment of the Privy Council Office; (*b.*) the establishment for the encouragement of Science and Art, now under the direction of the Board of Trade, and called the Department of Science and Art," and these two Departments were placed under the Lord President of the Council, who was to be assisted by a Vice-President of the Committee of Council on Education. The title of the Chief Executive Officer was altered to Secretary and General Manager, and subsequently to secretary of the Science and Art Department and Director of the South Kensington Museum.

6. On the retirement of Sir Henry Cole, K. C. B., in May, 1873, the then Assistant Secretary and Accounting Officer (Mr. MacLeod) was made an Assistant Secretary of the Educational Department and Principal Officer at South Kensington; Directors of the Science, Art, and Museum Divisions being at the same time appointed, and the Secretary of the Education Department, Sir F. Sanford, K. C. B., was made Secretary and given executive control of the Science and Art Department.

7. On Mr. MacLeod's retirement, in December, 1881, the then Director of the Science Division (Colonel Donnelly) was appointed an Assistant Secretary of the Education Department and Chief Executive Officer at South Kensington, retaining the Directorship for Science. He was also appointed Accounting Officer of the Science and Art Department.

8. The Parliamentary Vote for 1856-'57 was £64,675, while that for 1882-'83 was £351,400. The various stages of this development will be indicated hereafter. From 1856 to 1870 the grant for buildings was taken with the general vote for the Science and Art Department. Since 1871 it has been taken by Her Majesty's Office of Works.*

A.—THE SCIENCE DIVISION OF THE DEPARTMENT.

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B.—THE ART DIVISION OF THE DEPARTMENT.

1. As previously stated, "Schools of Design" were established in 1836. On their reorganization in 1852 as the Department of Practical Art, the minute states that the three principal objects of the new Department were—

(*a*) The promotion of elementary instruction in drawing and modelling.
(*b*) Special instruction in the knowledge and practice or ornamental art.
(*c*) The practical application of such knowledge to the improvement of manufactures.

CLASSES FOR ART TEACHERS AND FOR DESIGNERS.

2. Drawing examples were prepared and offered to elementary schools at half cost, and a class for the instruction of teachers of such schools was opened at Marlborough

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*It was intended that *all* the extracts from these English official reports, and directories, included in this Appendix, should be exact reproductions of the originals in typography, etc.; and the preceding eight paragraphs of the "History" are accordingly capitalized as they appear in the English Blue Book. Inadvertantly, the remaining copy was not followed in this respect, so that, while repeating the exact phraseology of the text, it appears, for the most part, with the customary American parsimony of capital letters. Incidentally a convenient "object lesson" is thus afforded, illustrating the differences between English and American official typography.—EDITOR ART REPORT.

House. Special classes were also established for technical instruction in art, *i. e.*, for training designers for woven fabrics of all kinds, paper staining, metal work repoussé chasing, casting, forming, &c., architecture and construction, and for the teaching of porcelian painting, wood engraving, lithography, casting, and moulding. These classes were additions to the courses for instruction in drawing, painting, modelling, and designing carried on at the Metropolitan school, Somerset House, where a training class for masters of schools of art was established, and a system of instruction laid down under which certificates of qualification as art masters were given to successful students

LOCAL EFFORTS PROMOTED.

3. The country was, according to the minute, to be encouraged to establish a new class of schools of art, which were to be maintained by local effort, with conditional aid from the Department, which was granted wherever a local committee was willing to establish day and evening classes, to appoint a certificated master, and to assign to him part of the fees of the school, and to engage him to teach drawing in at least three elementary schools. The aid from the Department consisted in payments of £10 on each certificate held by the master and in grants towards the cost of examples, and in medals and prizes awarded on a selection of the works sent to London for examination.

ENCOURAGEMENT TO ELEMENTARY SCHOOLS.

4. In August, 1853, the Central Training School was moved from Somerset House to Marlborough House, where temporary school rooms were erected. In 1854 teachers and pupil teachers of elementary schools were encouraged to pass examinations in drawing by the offer of payments on the results of their instruction when given to pupil teachers in elementary schools. The pupil teacher system was extended to schools of art, a payment of £15 a year being allowed for each pupil teacher. In 1855 the Department gave prizes to children in elementary schools taught drawing by masters of schools of art. In 1856 these schools were collectively examined at schools of art by the inspectors of the Department, and in 1857 a payment of 3*s.* for every child who obtained a prize was authorized to be made to the art master who had taught him. In 1857, also, teachers of elementary schools were authorized to receive an additional augmentation, not exceeding £5 to their salaries, provided they had passed examinations in drawing and taught the subject satisfactorily in their schools. In 1857 the Department and Central Art Training Schools removed from Marlborough House to South Kensington. In this year, also, the inspection of art schools was completely organized, so that once in the year each school was visited by an inspector, who awarded local medals and selected the best of the students' works to be sent up to London to the national competition to compete for 100 national medallions and prizes.

ART EXAMINATIONS IN TRAINING COLLEGES.

5. In 1856 the training colleges for teachers, under the Education Department, Whitehall, were examined by the Department in drawing for the first time. The examinations were at first conducted by Her Majesty's inspectors, but afterwards by officers of the Department. In the same year the system of "building grants" for schools of art was commenced. In 1862 the system of payments on certificates to the teachers of elementary schools was abolished, and the whole of the payments to the school made dependent on results tested by examination. Minutes were passed in 1863 extending this principle to the existing masterships of the schools of design and other schools of art. The masters of schools of design who had held direct appointments from the board of trade were superannuated. At the same time local scholarships and national scholarships, tenable for one year, were established, the latter, 15 in number, to enable advanced students, intending to be designers or manufacturers' draughtsmen, to prosecute their studies in the Central School and Museum.

6. This change led to the appointment, in 1864, of a select committee of the House of Commons to inquire into the constitution, working, and success of schools of art, and its recommendations were adopted so far as it was found practicable or advisable to do so.

7. In 1865 provision was made for night classes for instruction in drawing, as distinguished from schools of art. In 1876 it was decided to remove the limitation by which aid to "night classes" was restricted to classes held after 6 p. m., and to extend the same aid to art classes held in any school or other institution complying with the rules of the Department.

8. In 1857, 12,509 students were instructed in local schools of art, and 396 in the Central Training School, while the instruction given by the teachers of these schools

was so far extended to elementary and other schools as to raise the numbers taught through the agency of the schools to 43,212, a number which may be compared with 6,997 students taught by the schools of design before the establishment of the Department.

The following statistics are from the "Calendar and General Directory for the year 1855." [See pages 21–24.]

"Aid toward the promotion of art instruction is now given—

(*a*) To elementary day schools where drawing is taught concurrently with reading and writing.

An examination of the children and pupil teachers of a school is held once in the year, about the time that it is examined by Her Majesty's inspector. Payments are made of 1*s.* 6*d.* for each child who shows that he can draw to scale, and of 1*s.*, 1*s.* 6*d.*, or 2*s.* 6*d.*, according to the merit of the papers worked, in respect of the other first-grade subjects, free hand drawing from copies, from models, and practical geometry. A payment of 5*s.* is also made for subjects in which a child passes the examination, and of 10*s.* for each subject in which a paid monitor or pupil teacher passes in respect of the second-grade subjects, free hand, geometry, perspective and model drawing. First-grade prizes are given to those children and second-grade prizes to those pupil teachers who attain a certain standard of efficiency.

(*b*) To training colleges for the teachers of elementary schools.

Examinations are held in November, on the results of which payments of 10*s.* are made for each subject of the second grade examination in which a student passes, and for black-board drawing. Prizes of the second grade and certificates to teach drawing in elementary schools are given to students successful in these five exercises.

(*c*) To art classes for persons above 12 years of age.

Local examinations are held in these classes in May. Payments to art classes of 10*s.* are granted in respect of each success obtained in the second grade examinations in free hand, geometry, perspective, and model drawing. Payments of £2 10*s.* and £3 are granted in respect of each subject passed in the third grade examinations in drawing from casts of ornament, models, the antique figure, the life, painting from still life, in monochrome, advanced modelling, architecture, the history of art, design, &c., and of 25*s.* or 20*s.* for successes in elementary modelling.

Payments up to a maximum of 40*s.* per student are also made in proportion to the merit and quantity of each student's work submitted in April for examination at South Kensington. Prizes of the second and third grade are given to the more successful students.

(*d*) To schools of art which provide a complete course of instruction in art in the various stages laid down in the Art Directory.

Local examinations are held in schools of art in May, and works executed in the schools during the year are sent to the science and art department for examination in April. The payments granted are the same as those for art classes above enumerated. In addition, payments of £3 are made for free studentships awarded to qualified students; of £5 for each student who obtains a national scholarship at the National Art Training School, and of £15 for one, or £30 for two art pupil teachers.

(*e*) To the National Art Training School (South Kensington), which is maintained for training art teachers, designers, and art workmen, who are aided by scholarships gained in schools of art. Allowances of from 10*s.* to 35*s.* are made to students to enable them to obtain certificates of qualification for teaching the more advanced subjects of art instruction, and to study with a special view to their applications to industry the objects in the museum.

To students of schools of art prizes of the second and third grade are awarded; and in the national competition, twelve gold, thirty silver, and sixty bronze medals are competed for by the more advanced students.

(*f*) Aid towards the cost of buildings for schools of art on the same scale as that already stated for science schools.

The following figures show the extent and amount of the aid to Art instruction under the foregoing heads:

In 1883 there were 177 schools of art with 11 branch classes, and a total of 35,909 students, the fees paid by the latter amounting to £38,594, and the payments on results to £19.243; 499 art classes, with 26,424 students, the payments on results amounting to £6,768.

In 1883–'84, 4,553 elementary day schools, at which 774,000 children and pupil teachers were taught drawing, of whom 514,000 were examined, the payments on results amounting to £31,000; 48 training colleges, where 819 students and teachers obtained drawing certificates, were aided by grants amounting to £1,246.

The sums granted towards the cost of buildings for schools of art were £1,264 1*s.* 3*d.*; towards providing fittings, £908 9*s.* 10*d.*; and towards the purchase of art examples, &c., £971 12*s.* 4*d.*

The whole number of persons who received instruction in art in some form through the agency of the Department was 843,135.

The following table shows the numbers receiving instruction in art during the years 1872 and 1882 compared:

	Year.	No. of schools.	Persons taught.	Examination papers worked.	Works sent up.	Fees.	Direct payment on results.
Schools of art	1872	*122	22,854	15,800	73,542	£24,836	£11,501
	1882	†169	33,729	29,521	211,748	39,198	16,978
Art classes	1872	538	17,256	12,762	49,025	....	4,292
	1882	545	21,215	18,220	157,583	....	4,980
Science classes sending up art works	1872	69	....	....	2,868	....	142
	1882	282	....	....	63,401	....	1,902
Elementary day schools	1872	1,773	194,549	148,314	....	....	9,964
	1882	4,808	809,352	722,500	....	....	28,393
Training colleges	1872	40	3,105	9,233	....	....	385
	1882	48	3,454	10,291	....	....	1,188
Summary	1872	2,539	237,764	186,109	126,335	24,836	26,284
	1882	5,852	867,750	780,532	432,732	39,198	53,441

* And 2 branches. † And 13 branches.

The sum of £1,085, being a portion of the amount received as admission fees to the South Kensington Museum on students' days during the exhibition, in 1863, of the wedding presents of their Royal Highnesses the Prince and Princess of Wales, was invested in consols, and from the proceeds two scholarships, called the Princess of Wales' scholarships, of the value of £25 and £11 respectively, are annually awarded to the two female students who take the highest prizes in the national competition.

ADMINISTRATION OF THE ART DIVISION.

The principal officer of the art division was originally called the "art superintendent" (1853). This title was in 1857 changed to that of "referee for art and inspector general for art" (1865). In 1875, on the resignation of Mr. Redgrave, R. A., that office was abolished, and that of "director for art" created, together with that of "principal of the national art training school," the two posts being held by Mr. E. J. Poynter, R. A. The title of the second officer of the division, Mr. H. A. Bowler, was at the same time changed from that of "official inspector for art" to that of "assistant director for art." In 1882, on the resignation of Mr. Poynter, the two parts of "director for art" and "principal of the national art training school" were separated, Mr. T. Armstrong being appointed director for art, and Mr. Sparkes principal of the school. The office of visitor of the art training school was at the same time created and Mr. Poynter appointed to it.

STAFF OF THE SCIENCE AND ART DIVISION.

The staff of the science division consists of a director for science (the office at present being filled by the secretary), an assistant director, an official examiner, and two assistant examiners.

The staff of the art division consists of a director, an assistant director, an official examiner, an assistant examiner, and an examination clerk.

In addition to these there are four inspectors of science and art schools, besides occasional inspectors and acting inspectors, an organizing teacher, and professional examiners and assistants appointed from year to year.

As the examinations of the students, on which the payments on results are made, are carried out by means of professional examiners and assistants, the duties of the inspectors are primarily administrative, that is to say, to see that the schools are properly conducted according to the rules of the Department. The inspectors are, however, required to report generally on the efficiency of the teaching, to hold local inquiries, and to re-examine where there is any suspicion of unfairness in the conduct of an examination. Occasional inspectors are employed from time to time, as the necessity arises, to supplement the technical knowledge of the inspectors in such branches of science or of art as may be requisite. As the staff of four inspectors is insufficient to inspect the necessary proportion of science and art schools during the year, and to supervise the conduct of the May examinations, and as the fact that the classes are open only as a rule from October to May, renders an addition to the number of inspectors inexpedient, they are assisted in the administrative portion of their work by acting inspectors. These are generally officers of Royal Engineers who, with the sanction of the War Office and Horse Guards, are employed as acting and local inspectors to assist in the supervision of examinations and in the preliminary inspection of schools. They are generally employed to visit schools in the immediate neighborhood of their respective stations.

V.—NATIONAL ART TRAINING SCHOOL.

1. This school is a development of the former School of Design and Central School of Art at Somerset House, and its special object is the training of art teachers of both sexes, of designers, and of art workmen, to whom facilities and assistance are afforded in the shape of scholarships, maintenance allowances, and complete or partial remission of fees. A school for the instruction in art of general students is attached to, and serves as a practising school for the training school. In 1853 the school was removed from Somerset House to Marlborough House, and opened under the designation of "National Training School of Art." In 1856–'57 the school was transferred to South Kensington, a transfer which was followed by an increase in the number of students to 407 in 1858 as compared with 292 in the previous year at Marlborough House. In the year ending July, 1857, at the time of the removal to South Kensington, 196 students paid £570 in fees.

2. In 1863 the school was removed from the temporary wooden buildings in which it was first placed to permanent premises specially built for its reception. The increased accommodation thus afforded was followed, in 1864, by a very marked increase in the number of fee-paying students. For the year ending July, 1864, there were 825 such students, with a total of £1,824 fees. In 1863 a system of scholarships was established, open to candidates from local schools. The training class for the same year numbered 54 students, 41 of whom were in receipt of maintenance allowances, and 13 were free students.

3. In 1871, with a view to enable the school to fulfil more efficiently its primary object of training masters for art schools, it was found necessary to impose an examination test for all candidates for admission, and to make certain alterations in the regulations of the schools introducing payments on results.

4. During the year 1880–'81 128 students (34 females and 94 males) attended the school without paying fees, viz, 35 students in training, 12 national scholars, 65 students formerly in training, ex-national students and others having passed higher grade examinations, and 14 men of the Royal Engineers; 47 students were also admitted at half fees; 759 students attended the school (400 females and 359 males), and the total amount of fees received was £3,022 16*s*.

During the year 1882–'83 102 free students (23 women and 79 men) attended the school, viz, 34 students in training, 17 national scholars, 32 students formerly in training, ex-national scholars and others having passed higher grade examinations, and 19 men of the Royal Engineers; 32 students were admitted at half fees and 710 (400 females and 310 males) students paid full fees, the total amount being £2,987 14 *s.* 9*d.* [See Calender and General Directory for 1885, page 33.]

5. The course of instruction is as follows, though it must be understood that it is not progressive in the order in which the stages are named:

Stage 1. Linear drawing by aid of instruments, including linear geometry, mechanical and machine drawing, perspective, details of architecture, and sciography.

Stage 2. Free hand outline drawing of rigid forms from flat examples or copies.

Stage 3. Free hand outline drawing from the "round."

Stage 4. Shading from flat examples or copies.

Stage 5. Shading from the "round" or solid forms and drapery.

Stage 6. Drawing the human figure and animal forms, from copies.

Stage 7. Drawing flowers, foliage, and objects of natural history, from copies.

Stage 8. Drawing the human figure or animal forms, from the "round" or nature.

Stage 9. Anatomical studies, drawn or modelled.

Stage 10. Drawing flowers, foliage, landscape details, and objects of natural history, from nature.

Stage 11. Painting ornament, from flat examples.

Stage 12. Painting ornament, from the cast, &c.

Stage 13. Painting (general) from flat examples or copies, flowers, still life, and landscapes.

Stage 14. Painting (general) direct from nature, flowers, or still life, landscapes, and drapery.

Stage 15. Painting from nature groups of still life, flowers, &c., as compositions of color.

Stage 16. Painting the human figure or animals in monochrome, from casts.

Stage 17. Painting the human figure or animals in color.

Stage 18. Modelling ornament.

Stage 19. Modelling the human figure or animals and drapery.

Stage 20. Modelling fruits, flowers, foliage, &c., from nature.

Stage 21. Time sketches in clay of the human figure or animals, from nature.

Stage 22. Elementary design, including studies treating natural objects ornamentally, ornamental arrangements to fill given spaces in monochrome, or modelled ornamental arrangements to fill given spaces in color, and studies of historic styles of ornament drawn or modelled.

Stage 23. Applied designs, technical or miscellaneous studies, including machine and mechanical drawing, plan drawing, mapping, and surveys, done from measurement of actual machines, buildings, &c., architectural design, ornamental design as applied to decorative or industrial art and figure composition, and ornamental design, with figures as applied to decorative or industrial art, both flat and in relief.

Certificates of competency to teach the subjects included in these 23 stages of instruction are given to candidates who pass the necessary examinations, and are called (*a*) the intermediate or art class teachers' certificate and (*b*) art certificates of the third grade.

6. The staff of the National Art Training School consists of a principal, a registrar six assistant teachers, an instructor in decorative art, lecturers, occcasional professional assistants, and a visitor, Mr. E. J. Poynter, R. A.

Some of the masters and teachers receive, in addition to their fixed pay, payments on the results of their instruction, as tested by the examination of the students, and a proportion varying according to circumstances of students' fees, and there are other teachers who are paid wholly by fees.

The foregoing account of the school and of the courses of study is taken from the "History of the Science and Art Department" in the thirtieth annual report. The following further particulars are from a former prospectus of the school, with such additions from the register of 1885 as show thepresent facilities and regulations:

1. The courses of instruction pursued in the school have for their object the systematic training of teachers, male and female, in the practice of art and in the knowledge of its scientific principles, with a view to qualifying them as teachers of schools of art competent to develop the application of art to the common uses of life, and to the requirements of trade and manufactures. The instruction comprehends the following subjects: Free hand, architectural, and mechanical drawing; practical geometry and perspective; painting in oil, tempera, and water colors; moulding and casting. The classes for drawing, painting and modelling, include architectural and other ornament, flowers, objects of still life, &c., the figure from the antique and from life, and he study of anatomy as applicable to art.

2. These courses of instruction are open to the public on the payment of fees, the classes for male and female students meeting separately.

Fees for classes studying five whole days, including eveoings: £5 for five months, and an entrance fee of 10*s*. Evening classes: Male school, £2 per session; female school, £1 per session, three evenings a week.

Teachers in private schools or families may attend the day classes for not more than three months on payment of £1 per month, without payment of the entrance fee. An evening artisan class is held in the elementary room; fees 10*s*. per session, or 3*s*. per month. Students of this class may pass into the general class rooms at the same fee when they have passed examinations in the four subjects of the second grade.*

4. No students can be admitted to these classes until they have passed an examination in free hand drawing of the second grade. Examinations of candidates will be held weekly at the commencement of each session, and at frequent intervals throughout the year. These examinations are held at the school on Tuesdays, at 11.45 a. m., and 6.45 p. m., *except in the months of May, June, and July*, when the evening examination takes place at 5.45 p. m.† Candidates should bring their own lead pencils and india rubber. Unsuccessful candidates cannot be re-examined until after a month's interval. Candidates who have already passed an examination in free hand drawing are admitted on application to the registrar without further examination.

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* Students may attend a special architectural class which is held on Tuesdays. Fee, £1 1*s*. per term of five months, and an entrance fee of 10*s*.

Students may attend a special designing class which is held on Tuesdays at a fee of £1 1*s*. per term for each day, and an entrance fee of 10*s*.

†The examination fees are 2*s*. 6*d*. for day students, and 6*d*. for evening students to be paid at the time of examination.

5. The annual sessions, each lasting five months, commence on the 1st of March and the 1st of October, and end on the last day of July and the last day of February, respectively. Students who have passed the examination in accordance with paragraph 4 may join the school at any time on payment of fees for not less than five months; but those who have already paid fees for five months may remain until the end of the scholastic year on payment of a proportional fee for each month unexpired up to the 31st July in each year. The months of August and September are not counted as part of the five months paid for. The months of August and September, one week at Christmas and one week at Easter and Whitsuntide are vacations.

The school will be open every day, *except Saturday.*

Hours of study: Day, 9 to 3.30; evening, 7 to 9.

Evening classes for females on Tuesdays, Thursdays, and Fridays.

All day students are expected to attend at 9 a.m., and to remain in the school until the bell rings at half past 3 p.m., except during the half hour for lunch, from 1 to 1.30 p.m., *or when permission has been specially obtained.* The evening classes for male students are open daily, from 7 to 9 p.m., *except during the months of May, June, and July, when they meet from 6 to 8 p.m.* The evening classes for female students meet on Tuesdays, Thursdays, and Fridays, from 6.30 to 8.30 p.m., except from 1st May to 31st July, when the hours are the same as in the male school, viz, from 6 to 8 p.m.

6. Classes for schoolmasters, schoolmistresses, and pupil teachers of elementary schools meet on two evenings in each week. Fee, 5*s.* for the session.

7. Students properly qualified have full access to the collections of the museum and library, either for consultation or copying as well as to all the school lectures of the department.

8. A register of the students' attendance is kept, and may be consulted by parents and guardians..

Masters and students in the National Training School and other schools of art under the department who are desirous of studying in the galleries of foreign countries, and who have obtained one or more certificates of the third grade, may receive, on application to the secretary, a form of recommendation as to their competence, which may be presented with their certificate to the British consul or to the directors of the galleries in question.

Further information may be obtained on personal application at the schools, or by letter addressed to the secretary, science and art department, S. W.

LECTURES AT SOUTH KENSINGTON.

A course of twelve lectures on anatomy as applicable to the arts is given in each session. The spring course may be attended by ladies. Fee for the course, 6*s.*; for a single lecture, 1*s.*

A course of forty lectures on the "historical development of ornamental art" is given each year. The public is admitted on payment of 15*s.* for the complete annual course; 10*s.* for the course of twenty lectures each term, or 1*s.* each lecture.

Other lectures will be delivered occasionally and duly announced.

The schools are open free for the inspection of the public every Saturday, from 2 till dusk. Entrance through the museum.

VI.—THE SOUTH KENSINGTON MUSEUM AND BETHNAL GREEN BRANCH MUSEUM.

(*a*) ART COLLECTIONS.

1. From the year 1837 up to 1849 models or casts, prints, and examples had been purchased as necessary means of instruction in design and ornamental art in connection with the schools of design already adverted to (see page xxxvii); £1,299 were spent, for instance, in 1844-'45 in the purchase of miscellaneous examples from Paris. For some time these objects had been stowed away in Somerset House for want of space. They included casts of ornamental art of all periods, copies of Raphael's Loggie, specimens of manufactures, &c. In 1851 the board of trade appointed a committee to select objects notable "entirely for the excellence of their art or workmanship" for purchase to the amount of £5,000 from the Exhibition of the works of Industry of all Nations in 1851. These, together with the casts, models, and examples from the vaults of Somerset House, were transferred to Marlborough House, and Her Majesty the Queen and others lent valuable specimens which were placed with them. The collections thus formed were opened to the public as a Museum of Ornamental Art on the 6th September, 1852. They were arranged in divisions such as textile fabrics, lacquer ware, ivory carving, jewellery, enamels, furniture, wood carvings, paper hangings, pottery, stone ware, hard porcelain, soft porcelain, Sèvres, Dutch earthen ware, majolica. A selection of casts of the renaissance period was also shown.

EDUCATIONAL VALUE OF A MUSEUM.

2. No special provision had been sanctioned by Parliament for increasing the collection during the year. It was therefore proposed that an annual vote should be submitted to Parliament for the gradual formation of a systematic national collection of manufactures of all periods, the first of its kind apparently in Europe.* Such a "collection of specimens which should illustrate both the progress and the highest excellence attained in manufacture, both as to material, workmanship, and decoration, had long been a most desirable object, and considered indispensable to instruction. Indeed, a museum presents probably the only effectual means of educating the adult, who cannot be expected to go to school like the youth, and the necessity for teaching the grown man is quite as great as that of training the child. By proper arrangements a museum may be made in the highest degree instructional." (See First Report of the Department of Practical Art.)

AN ART LIBRARY BEGUN.

3. Concurrently a library of works upon art was commenced from the collection of books of reference on art, purchased in earlier years for the use of the School of Design. This became the National Art Library.

AID TO LOCAL SCHOOLS OF ART.

4. In November, 1852, in view of a proposal to purchase additional objects for the museum, a minute was passed approving of a proposal of Mr. Cole's, which concluded as follows:

"As the collection of articles for the museum proceeds, objects of the same kind but of various degrees of importance and value will be amassed, and in order to render the objects which could be dispensed with most available for the purposes of public instruction, I propose that local schools of art may have the privilege of purchasing them at half the prime cost. Hitherto specimens of manufacture have been presented to the schools; but, in future, I recommend that the gifts be few and exceptional."

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*A petition in June, 1852, addressed to the Prince Louis Napoleon Bonaparte, President of the French Republic, prayed for the establishment in France of a museum of the fine arts as applied to industry, and in support of the prayer related how "quite recently a museum of ornamental art had been solemnly inaugurated in London by Her Majesty Queen Victoria." (See p. 63, First Report Practical Art.)

Thus the principles of both forming a normal central collection and encouraging the establishment of local museums were affirmed.

5. It was from the first considered desirable to make the collections of art useful to the provinces as well as to the metropolis. With this view small selections of objects from the museum, and photographs and drawings of rare objects, either temporarily deposited or by their nature not easily removable, were lent for study and exhibition to provincial schools of art. (Second Report of the Department of Science and Art, p. 36.) This was the commencement of the system of circulation of art objects throughout the country.

EARLY ADDITIONS TO ART COLLECTIONS.

6. Towards the end of 1852 the Bandinel collection, illustrative of pottery and porcelain, was acquired. A special loan exhibition of furniture was held by the department in 1853, at Gore House, Kensington, when a collection of studies of the life, by W. Mulready, R. A., was also exhibited for the instruction of students in the anatomical and figure class. Purchases to the extent of £8,583 were made in 1854 from the collection of Mr. Bernal, principally of specimens of pottery and porcelain, majolica ware, glass and metal work. In the same year the chancellor of the exchequer (Mr. Gladstone) purchased the Gherardini collection of models for sculpture, which was placed in the art museum. This collection, inasmuch as it referred to a branch of art not necessarily connected with manufactures, helped in extending the limits of the collections generally, which henceforth became "art collections." In 1855 purchases of objects were made from the Paris Universal Exhibition, and negotiations were at this time commenced for acquiring a large collection of mediæval ornamental art from Mons. Soulages, of Toulose.

COLLECTIONS CLASSIFIED AND CATALOGUED.

7. Catalogues of the collections were printed with the earlier annual reports of the department and issued separately for public use; but as the collections increased it was determined to affix a descriptive label to each object. Accordingly in 1856 an inventory of the objects of art in the museum, excluding British pictures and sculpture, was prepared, and a classification adopted to give a practical and instructive character to the sections of the museum. Every object was labelled, the inventory entries serving the purpose also of labels. The classes of objects were defined as follows: Sculpture, glyptic and numismatic art, mosaics, painting, japanned or lacquered ware, glass painting, enamels, pottery, glass manufactures, works in metal, watches and clocks, jewellery and decorative objects in precious materials, arms, armor, and accoutrements, furniture and general upholstery, leather work, basket work, textile fabrics, bookbinding, and book decoration generally, ornamental designs, drawing, and engravings. Descriptive catalogues, with accounts of various classes of works of ornamental art, have been prepared from time to time by recognized authorities, and are intended to serve as standard works upon such subjects.

TRANSFER TO SOUTH KENSINGTON.

8. In 1856 Parliament voted £10,000 for the transfer of the Department of Science and Art from Marlborough House to South Kensington. As respects the selection of the site at South Kensington the following particulars may be given: Upon the close of the exhibition of 1851 a profit of over £150,000 accrued to Her Majesty's commissioners for that exhibition. His Royal Highness the late Prince Consort, president of the commission, proposed that this sum should be expended in the purchase of land to be devoted to institutions for promoting science and art. An estate was available for purchase in the neighborhood of Hyde Park. It extended from Kensington Gore to Brompton. Parliament co-operated with Her Majesty's commissioners in its purchase, and voted altogether about £181,000. By gifts and purchases from the exhibition of 1851, by gifts from the Society of Arts, &c., Her Majesty's commissioners had become possessed of divers collections for public instruction in science and art. They applied in 1855 to the Government for assistance in constructing a building to contain these collections, and Parliament voted £15,000. An iron building was accordingly erected under the supervision of the late Sir William Cubitt, upon the southeastern portion of the estate which Her Majesty's commissioners gave up to the use of the department. Her Majesty's commissioners contributed £2,000 for the building of refreshment rooms adjoining the iron building. They also

expended £3,000 upon internal fittings. In 1858 Her Majesty's commissioners repaid £121,000 of the money previously voted by Parliament, and the Government became possessed (under the act Vict., 21, 22, c. 36) of 12 acres, valued at £60,000, of the southeastern portion of the estate. The buildings thus erected, together with others already upon this portion of the estate, were used by the Science and Art Department for the museums of education, patented inventions, animal products, and ornamental art, the National Art Training School, and offices. On the site thus acquired the buildings have been erected for the remainder of the art collections.*

GALLERY OF BRITISH ART BEGUN.

9. The Lords of the Committee of Council for Trade, by minute dated 6th February, 1857, accepted the trusteeship created by the deed of gift by which Mr. Sheepshanks transferred his valuable collection of pictures and drawings in order to found a gallery of British art in connection with the schools of art, and the Treasury sanctioned the necessary expenditure for the erection of a gallery to contain this collection. About the same time, in compliance with a suggestion of the Sculptor's Institute, space was allotted in the museum for the exhibition of a collection of British sculpture. Thus a new division of the art collections was commenced, viz, British paintings in oil and water colors, drawings, &c., and British sculpture.

MUSEUM OF ARCHITECTURE BEGUN.

10. An architectural museum had been founded in Cannon Row, Westminster, in 1851, by a private society, as the nucleus of a "National Museum of Architecture." About 7,000 specimens, principally illustrative of Gothic art, had been collected. These were now handed over to South Kensington, and were arranged with the classic and renaissance casts which belonged to the department. The chief commissioner of works lent several architectural models to the museum, and other persons made contributions. The fifth report of the department states that "there can be little doubt that if sufficient space be provided by the state for an architectural collection which shall properly display the architecture of all periods, the public will considerably aid in filling it."

REPORT OF SELECT COMMITTEE, 1860.

11. In 1860 a select committee of the House of Commons was appointed to inquire and report concerning the South Kensington Museum. In the report of that committee reference was made to the fine arts committee of the House of Commons in 1841, who had reported that "independently of the beneficial and elevating influence of the fine arts upon the people, every pecuniary outlay either for the purpose of forming or extending collections of art in this country has been directly instrumental in creating new objects of industry and of enjoyment, and therefore in adding, at the same time, to the wealth of the country." Evidence illustrated by actual specimens brought before the select committee of 1860 proved the soundness of the views enunciated in 1841, "and showed how by a judicious cultivation of the taste of purchasers and manufacturers, and by their action on each other, new branches of ornamental manufacture had been created within the last few years." The committee arrived at the opinion that "the South Kensington Museum in respect of its action, as well throughout the United Kingdom as well as the metropolis, is exercising a beneficial influence, and that it is fully deserving of continued parliamentary support."

GIFTS TO THE MUSEUM.

12. Donations to the Art Museum increased the number of sections of the art collections. The Grand Duke of Tuscany had presented a cast—Michael Angelo's David at Florence—and this, with original specimens of decorative art and other sculpture in marble and stone, models in terra cotta, the Gherardini collection already mentioned, laid the foundations for a collection of examples of decorative carving, modelling, and sculpture. By 1863 the art collections generally had so increased that the lords of the committee of council on education specially reviewed them, and directed that as some sections, mediæval art of Italy, for instance, were well represented, "future purchases be confined to objects wherein fine art is applied to some purpose of utility, and that works of fine art not so applied should only be admitted as exceptions, and so far as they may tend directly to improve art applied to objects of utility. The decorative art of all countries should be completely represented. Second rate works should only be acquired as substitutes until better works can be obtained. Where the taste of the age or country has been low few specimens only will be necessary. Original works are to be obtained as far as possible, but

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* "The total expenditure on new Museum buildings, including the Normal School of Science and Royal School of Mines, and the National Art Training School, up to 31st March, 1883, has been £383,719 14*s.* 1*d.*" Calendar and General Directory, 1885, see p. 37.—EDITOR ART REPORT.

where this would seem to be impracticable the system hitherto pursued of representing the finest known examples by electrotypes, casts, and drawings, will be followed, it being always kept in mind that the aim of the museum is to make the historical and geographical series of all decorative art complete, and fully to illustrate human taste and ingenuity."

SYSTEM OF REPRODUCTIONS AND OF EXCHANGES ESTABLISHED.

13. From 1853 the expediency of obtaining reproductions such as casts, photographs, and electrotypes of valuable works of art had been recognized, and in 1864 a minute was passed with the view of establishing relations between the department and continental museums. A list of foreign museums was prepared and an international art inventory was compiled and published, but this was discontinued in 1879. It was known that in continental museums and other institutions, churches, and palaces, original objects were preserved which it could not be expected would ever become purchasable by this country. Admirable substitutes of them might be easily obtained by various modes of reproduction with perfect safety to the originals. In 1867 His Royal Highness the Prince of Wales entered into a convention with several of the princes of the reigning families of Europe for promoting universal reproductions of works of art for the benefit of museums of all countries. In course of time a number of important reproductions of monuments of various styles of art was procured, and a special court erected for the display of those larger specimens such as the Trojan Column, the Santiago Gateway, the Fireplace from Bruges, Adam Crafft's sculpture from Nuremberg, the Sanchi Gateway, the Emperor Akbar's Council Seat, &c., which could not conveniently take their proper places in the historic series to which they belong. In 1881 it was decided to form a collection of casts of classic sculpture illustrating the early history of Greek art. This new division of the museum is in course of arrangement and organization.

SPECIAL LOAN EXHIBITIONS.

14. In addition to the acceptance, on loan, of works of art for temporary exhibition, special loan exhibitions of objects to illustrate a particular category of art in respect of objects of utility, or of methods of dealing with materials, have been held during many succeeding years since 1853. In 1862 a special loan exhibition of all classes of ancient works of ornamental art was held. In 1865 there was a special loan exhibition of miniatures; in 1870 one of fans; in 1872 one of ancient musical instruments; in 1873 one of decorative art needlework; in 1874 one of enamels on metals. But beyond the scope of such exhibitions, a series of three national portrait exhibitions suggested by the late Earl of Derby, was carried out by the department during the years 1866, 1867, and 1868 in the southern galleries overlooking the Royal Horticultural Gardens. Two other special exhibitions have taken place—one to illustrate Spanish art; the other, in 1882, Scandinavian art.

NOTABLE GIFTS AND BEQUESTS TO THE MUSEUM.

15. Many valuable bequests have been made to the Department for the art collections, and the India Museum was transferred to the charge of the Science and Art Department in 1879.

Besides the gift of pictures by Mr. J. Sheepshanks in 1857, already referred to, the following more notable gifts and bequests may be mentioned:

In 1860 and in 1873, by Mrs. Elizabeth Ellison, 100 water color drawings, for the purpose of forming a national collection of water color drawings.

In 1864, by Rev. R. Brooke, 396 objects, consisting of textiles, watches, rings, &c., and 718 volumes of books.

In 1867, by Mrs. Wollaston, 270 drawings of mosaics.

In 1867 and 1868, by Sir Charles Wentworth Dilke, Bart., M. P., 297 volumes, 862 pamphlets, and 155 prints illustrating the Great Exhibition, 1851.

In 1868, by Mrs. Louisa Plumley, 43 enamel paintings by Essex, Bone, &c.

In 1868, by Professor Ella, 329 volumes of music, printed and in manuscript, 6 busts, 1 oil painting (a portrait of Rossini) from the library of the Musical Union Institute.

In 1868, by Rev. Chauncy Hare Townshend, 211 objects, chiefly jewels, 189 oil paintings, 174 water color paintings, 4,218 Swiss coins, 831 volumes, 390 drawings, 1,815 prints.

In 1879, by Rev. Alexander Dyce, 80 pictures, 63 miniatures, 802 drawings, 1,511 prints, 74 rings, 27 art objects, 13,596 books.

In 1870, by William Gibbs, esq., Roman and Anglo-Saxon ornaments and other antiquities, chiefly found in Kent.

In 1870, by John Meeson Parsons, esq., a collection of 92 oil and 47 water color paintings.

In 1871, by W. Smith, esq., 86 early English water color drawings.

In 1874, by Alexander Barker, esq., Venetian furniture of a boudoir.

In 1876, by John Forster, esq., 48 oil paintings, 74 frames of water-color paintings and drawings, collections of drawings, sketches, and engravings, collection of manuscripts and autographs, library of printed and illustrated books.

In 1876, by Sir Matthew Digby and Lady Wyatt, 148 fans.

In 1876, by William Smith, esq., 136 water color drawings and about 700 volumes of books and manuscripts. See also his gift in 1871.

In 1877, by the Shah of Persia, a collection of Persian carpets and textiles.

In 1878, by the French minister of commerce, specimens of Gobelins and Beauvais tapestries.

In 1882, by Mr. John Jones, a magnificent collection of works of art, chiefly French furniture, porcelain, and enamels of the eighteenth century.*

It is estimated that the various gifts and bequests to the museum would, if sold at the time they were received, have realized about £1,000,000.

COST OF ART COLLECTIONS.

From 1856 to 1882-'83, inclusive, the amount expended in the purchase of objects of art (originals and reproductions), available both for the Central Museum and for circulation to the provinces, has been £302,148. That for purchases for the National Art Library has been £52,665. The value of the bequests thus far exceeds the sum expended out of the annual votes of the department.

In 1867 the lords of the committee of council on education appointed a staff of art referees, selected from the most competent authorities, to advise them with reference to purchases for the South Kensington Museum. These gentlemen receive a consulting fee when they are asked to advise. Their lordships also decided to appoint referees in science, as well as in art. In 1884 the list of referees for science was revised, and arrangements made for their acting collectively in committees. It was decided that a similar course should be adopted with regard to the art referees, and that the system of making purchases should be so organized as to meet the requirements, not only of the South Kensington Museum, but also of the museums of Dublin and Edinburgh and of local museums to which aid is granted by the state.

The duties of the referees, who are to be invited to act from year to year, were broadly defined to be to advise their lordships whether objects offered to the museum are genuine; whether they are good of their kind, or whether better are likely to be in the market; whether the price is reasonable, and also to make suggestions as to objects at home and abroad which might be acquired by negotiation.

The present committee of art referees consists of Sir F. Leighton, P. R. A.; Mr. Bodley, A. R. A.; Mr. Boehm, R. A.; Sir F. Burton; Mr. Butler; Mr. Heseltine; Mr. Maskell; Mr. W. Morris; Mr. A. Morrison; Mr. J. H. Pollen; Mr. E. J. Poynter, R. A.; Mr. L. Alma Tadema, R. A.

The permanent officers of the Department are to select from among the objects recommended by the committee those which they recommend for purchase as coming within the means available, as suitable for the special aim of the Science and Art Department, and as desirable to complete the several sections.

SUMMARY OF THE ART COLLECTIONS.

16. The art collections at the South Kensington Museum thus formed are comprised under the following heads: (*a*) Objects of ornamental art generally (originals and reproductions); (*b*) British paintings in oil and water colors, &c.; (*c*) British sculpture; (*d*) Gallery of casts of classic sculpture; (*e*) National Art Library of works on fine arts, drawings, engravings, photographs, &c., and are available, not only for the Central Museum and Library of reference, but also for circulation throughout the country. The system of circulating objects of art (originals and reproductions) was revised by minute of 29th March, 1860, and a report upon this function of the Science and Art Department was published in a parliamentary paper in 1881.

17. In 1865 Her Majesty the Queen graciously lent the Raphael cartoons for exhibition at the South Kensington Museum.

18. In 1857 arrangements were made for lighting the Museum and throwing it open to the public on three evenings a week, and since that time, up to the end of 1882, 21,582,102 persons have visited the Museum. From 1856 to 1883 the amount voted for the purchase of objects of art (originals and reproductions) available, both for the Central Museum and for circulation to the provinces, has been £328,099; that for purchases for the National Art Library has been £49,150. The value of the bequests far exceeds the sum total expended.

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* The remainder of § 15 is from 1885 Calendar.

19. The Department of Science and Art was constituted by royal charter, dated 30th April, 1864, a body corporate, since which time it has accepted numerous and valuable bequests of works of art.

BRANCH MUSEUM AT BETHNAL GREEN.

20. The establishment of the Branch Museum of Science and Art at Bethnal Green arose out of two circumstances. The first was an intimation on the part of the inhabitants of the east end of London of their willingness to provide a site for such a museum if the Government would organize it. The second was the necessity for removing the larger part of the iron buildings at South Kensington to make room for permanent structures. The materials of the iron museum were thus available for reerection elsewhere. The treasury approved of the general proposal to use these materials in the formation of district museums. The branch museum at Bethnal Green was to be a national institution for the reception of objects of science and art, being national property, which are insufficiently provided for elsewhere. There were "one or more classes of objects in the South Kensington Museum which would appropriately constitute the foundation of such a museum, such as the collection of animal products useful in manufactures." (See minute of 10th March, 1866.) The site was transferred by the inhabitants of the east end of London to the Government in February, 1869, and the buildings, which had been erected by a parliamentary grant, were completed early in 1872. The animal products and food collection were removed from South Kensington, and the artistic division of the new branch museum was for the time composed of pictures and works of art lent by Sir Richard Wallace. The Branch Museum of Science and Art thus formed was opened by their Royal Highnesses the Prince and Princess of Wales on the 25th June, 1872. The science section of the museum has maintained its permanent character, but the artistic collections have been changed several times, various and important contributions on loan having been made by private persons. For some time the iron work from the Kensington art collections was exhibited at the branch museum. Within the last three years all the specimens which illustrate modern phases of ornamental art have been eliminated from the art collections at South Kensington and placed in the branch museum. Up to the end of 1882, 6,428,479 persons had visited the branch museum.

21. The staff of the South Kensington Museum, including the Bethnal Green Branch Museum, the India Museum, and the Art and Educational Libraries, consists of a director, 2 museum superintendents, 3 museum keepers, 10 assistant museum keepers, 8 junior assistants, and 9 technical and special assistants.

22. Returns are appended of (1) the number of visitors to the museum at South Kensington, and (2) votes for purchases of art and other objects, &c.

Return of yearly number of visitors from 1857 *to end of* 1882.

Years.	Number of visitors.		
	Morning.	Evening.	Total.
1857	120, 371	147, 920	268, 291
1858	237, 272	219, 016	456, 288
1859	263, 088	212, 277	475, 365
1860	347, 596	263, 100	610, 696
1861	379, 156	225, 394	604, 550
1862	849, 192	362, 177	1, 241, 369
1863	463, 504	263, 411	726, 915
1864	413, 980	239, 089	653, 069
1865	444, 803	248, 151	692, 954
1866	515, 674	240, 401	756, 075
1867	438, 808	207, 708	646, 516
1868	599, 143	281, 933	881, 076
1869	768, 765	274, 889	1, 043, 654
1870	742, 880	271, 969	1, 014, 849
1871	690, 128	249, 201	939, 329
1872	840, 754	315, 314	1, 156, 068
1873	611, 732	247, 305	859, 037
1874	642, 880	271, 247	9.4, 127
1875	602, 473	227, 739	830, 212
1876	816, 504	356, 847	1, 173, 251
1877	684, 541	229, 160	913, 701
1878	662, 186	222, 163	884, 502
1879	665, 722	213, 673	879, 395
1880	748, 502	233, 461	981, 963
1881	769, 117	247, 907	1, 017, 024
1882	760, 305	201, 421	961, 726

Vote for purchases of art and other objects for the South Kensington Museum and of books for the Nationnl Art Library.

MARLBOROUGH HOUSE COLLECTIONS.

Year ending March 31—	For what object.	Amount.
1856	Examples (including £12,000 for purchases from the Bernal collection)	£19,056
1857	Examples	7,226

SOUTH KENSINGTON MUSEUM.

Year ending March 31—	Art examples.	Reproductions, casts, electrotypes, &c.	Books for National Art Library.
1858	£9,000	....	£1,000
1859	11,800	....	1,000
1860	12,170	....	1,000
1861	14,500	....	900
1862	14,500	....	900
1863	16,000	....	1,000
1864	16,000	....	1,000
1865	16,000	....	1,500
1866	10,000	£2,000	1,500
1867	10,000	2,000	1,500
1868	10,000	2,000	2,500
1869	10,000	4,000	3,000
1870	8,647	2,000	2,500
1871	8,500	3,000	2,500
1872	8,500	3,000	2,500
1873	8,500	2,100	2,500
1874	8,500	2,500	2,500
1875	8,500	2,500	2,500
1876	10,000	2,500	2,500
1877	6,000	1,000	1,000
1878	8,000	1,500	1,500
1879	6,000	1,500	2,000
1880	6,000	1,500	2,000
1881	6,000	1,500	2,500
1882	8,000	2,000	2,850
1883	10,000	3,500	3,000
Total	261,117	40,100	49,150

In addition to the previous extracts from the history of the Department in the thirtieth annual report, the following statements are from the report by Sir Philip Cunliffe Owen, director of the museum, in Appendix E of the same report:

THE JONES BEQUEST.

* * * "The most notable event in the history of the museum during the year is the reception of the collection bequeathed to the nation by Mr. John Jones, of Piccadilly, who died on January 7, 1882. It consists chiefly of very choice examples of French eighteenth century art, a class more keenly sought after by wealthy collectors than any other: Enamels by Petitot and his followers, furniture by Boule, Riesener, and David Roentgen; metal work by Caffieri and Gonthière; Sèvres porcelain vases of the best period. Such works can only be purchased for thousands of pounds each, an outlay which the other pressing demands on the annual parliamentary grant for purchases would not have permitted. Hence it would have been impossible for the museum to acquire an adequate representation of this class of art except by gift or bequest. Hitherto the deficiency has in some measure been supplied by loans; now the museum can show examples of its own, rivalled by few if any public collections, and surpassed by none. The market value of the bequest has been fixed by experts at a quarter of a million sterling, a sum which the return on page 554 shows had, at the time when the bequest was received, been but slightly exceeded by the total

outlay on original art objects from the beginning of the museum collections in 1852 to December 31, 1881.

"The collection, which is shown to great advantage in the rooms formerly used for the exhibition of water-color drawings, &c., was visited by their royal highnesses the Prince and Princess of Wales on December 12, and opened to the public on the following day. An illustrated hand-book and a catalogue have been printed and have met with a ready sale.

"Another subdivision of the art collections has been much strengthened by the bequest by Mr. Arthur Wells of numerous examples of Chinese carved jade, crystal, &c. These were already familiar objects in the museum, having been on loan since 1872." * * *

From the report of Mr. Richard A. Thompson, the assistant director for arrangement, Appendix E, is taken the following further particulars of additions to the collections made during the year:

THE JONES BEQUEST.

The bequest (by Mr. John Jones) mainly consists of works illustrating the arts of France during the last century, principally furniture, cabinet work, Sèvres china, goldsmiths' work, enamels, paintings in oil, and water colors, &c.

The paintings in oil comprise specimens of the English school by Reynolds, Gainsborough, Linnell, Mulready, Webster, Frith, Landseer, Topham, Poole, &c., and the water color works by Turner, Copley Fielding, Birket Foster, Hunt, Goodall, &c. Among the works of foreign artists are included specimens of the works of Watteau, Boucher, Fragonard, Greuze, Guardé, Lancret, Murillo, and others.

The miniatures include works by Isaac Oliver, Janet, Cooper, and others, and a fine collection of Petitot enamels.

There are eighty-nine pieces of Sèvres porcelain, besides numerous specimens of Oriental, Chelsea, and Dresden manufactures.

The miscellaneous objects comprise examples of various countries and manufactures and are especially rich in jeweled and enameled boxes, caskets, cups, and goldsmiths' work generally.

There are numerous bronzes and clocks, 135 specimens of decorative furniture, mostly French, of the last century, and a collection of over 100 pieces of sculpture, and over 1,000 volumes of books and engravings.

This collection, comprising as it does so many fine examples of the French industrial arts of the last century, is particularly acceptable to the museum, specimens of the works of that period being hitherto almost unrepresented in the collections. * * *

The collection has been arranged in the eastern side of the museum, and occupies the first three rooms adjoining the Sheepshanks galleries.

THE WELLS BEQUEST.

The next important bequest during the year was that of Mr. Arthur Wells, of Nottingham, consisting of a remarkable collection of carved oriental jades, crystals, agates, &c. It comprises vases, bowls, cups, &c., in rock crystal, and figures, animals, flowers, vases, bowls, snuff-boxes in jade, caskets, and cups in agate and blood-stone; boxes in crystal and jade inlaid with rubies and emeralds, and some fine specimens of Chinese enamels. The collection numbers 159 specimens, and fills what had hitherto been almost a blank in our illustrations of Chinese art.

PURCHASES.

The most important additions made to the Museum by purchase are a series of examples of Italian sculpture, purchased in Italy for the department by Mr. J. C. Robinson; notably the large group in Istrian stone of the "Virgin and worshippers," formerly the tympanum of a doorway in the Abbey church of Santa Maria della Misericordia, at Venice. This work is of the fifteenth century, and attributed to Bartolommeo Bono; a well-head of white marble, carved in low relief, with crosses and flowers, from Murano, near Venice, eleventh century, and another of the fifteenth century; two tanks of washing fountains, Venice, fifteenth century; a pedestal of white marble with verde antique shaft, from a villa of the Salviati family, near Florence, fifteenth century; architrave and cornice of a doorway in Istrian stone, from Urbino, sixteenth century; a beautifully sculptured monumental medallion in Istrian stone, formerly erected to the memory of Antonio Maggio Bassano, an advocate of Brescia, and his wife Caterina, early sixteneth century work; a terra cotta medallion, the head of an old man, Florentine, fifteenth century; a devotional tablet, relievo, in painted stucco, attributed to Donatello; and a series of panels, brackets, and other architectural details in marble and Istrian stone, works of the fifteenth century. Some specimens of Italian sculpture were also obtained from other sources, including notably a monument to Gasparo Moro, from the church of Santa Maria della Misericordia, at Venice, &c.

Some examples of oriental art and other specimens were acquired at the sale of the Hamilton Palace collection, the principal object being a Japanese gold and black laquer coffer, seventeenth century work, stated to have been the property of Napoleon the First.

A collection of terra cotta glass and pottery from Cyprus has been obtained through the instrumentality of Lieutenant Kitchener, R. E., and Mr. G. G. Hake. It is in course of arrangement, and will shortly be ready for public inspection. Also a collection of casts of ancient classical sculpture, formed under the superintendence of Mr. Perry. * * * A large number of the finest works in the museum have been circulated to schools of art, permanent museums, and institutions in connection with the department.

Loans have been made to 129 schools of art and 60 local museums and other institutions; the number of objects and frames of illustrations circulated during the year amounting to 24,117. * * *

EAST INDIAN SECTION.

The Indian collection referred to in last year's report as being secured by the aid of Mr. Purdon Clarke has been unpacked and is in course of arrangement; it contains many specimens of great interest, especially in the carved wood fronts of windows and balconies of old houses, also specimens of modern carving for similar purposes. There are many fine specimens of ancient and modern sculptures on stone, and examples of wall decorations in tiles. The collection is in course of arrangement in the west court of the new building. This dividing of the Indian collection is much to be regretted, but at present it is unavoidable on account of many of the specimens being too large to admit of their being placed in the rooms of the Indian section.

BETHNAL GREEN BRANCH MUSEUM.

The only alteration of importance in the arrangement of the collections at Bethnal Green Branch Museum was caused by the acceptance of the loan of a large collection of pictures kindly offered by the Marquis of Bute. This important collection, comprising, as it does, 264 works mostly by the old masters, fills the whole of the eastern gallery, and a portion of the western. The pictures by modern foreign artists lent from South Kensington, and some of the older loans had to be removed to provide sufficient space. The collection was arranged and opened for public exhibition a few days before the Christmas holidays."

THE ART COLLECTIONS.

Mr. George Wallis, the keeper of the art collections, reports as follows:

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The number of objects acquired by purchase, gift, or bequest during the year 1882 was 1,942, viz: General art collections, 1,685; Indian section, 153, and school examples, 104; as against 409, viz.: General art collection, 218, and Indian section 201, in 1881.

The most important acquisitions of the year by purchase are:

(1) A tympanum from the church of S. Maria della Misericordia, Venice, attributed to B. Bono, £157 9*s*. 8*d*.

(2) A collection of Italian objects obtained in Italy for the museum by Mr. J. C. Robinson, £1,263, 18*s*. 6*d*.

(3) A collection of Spanish church plate, £1,200.

(4) The excellent collection of musical instruments, formerly on loan, made by the late Mr. Carl Engel, £555 6*s*.

(5) A collection of objects purchased at the Hamilton sale, £2,570 12*s*.

(6) A monument to Gasparo Moro, from Venice, £100.

The most important presentations of the year were:

(1) The great and varied collection of French furniture, miniatures, paintings, porcelain, enamels, &c., bequeathed by John Jones, esq.

(2) A collection of old French marqueterie furniture, and seven paintings by old masters, presented on behalf of the late Miss Coutts Trotter, of St. Germains, by her representatives.

(3) A valuable and interesting collection of objects in jade and other precious stones, lent for exhibition by Arthur Wells, esq., of Nottingham, and bequeathed by him at his demise.

A special loan exhibition of Scandinavian objects was opened in May and closed in August. The chief contributions were from the museums of Stockholm and Copenhagen, supplemented by contributions from private lenders in Norway, Sweden, and Denmark, with a few contributions from English collectors.

CIRCULATION.

The demands for assistance to local exhibitions and museums have increased during the year, whilst those from schools of art for the purposes of study are continuous and regular. There is still a great deficiency of suitable studies in oil for use in the painting classes in the schools. The selection of objects sent to exhibitions and provincial museums, appears to have given general satisfaction, from the higher standard which has been taken in choosing the objects and grouping them as illustrations of country, style, or fabric; but occasionally the assistance given denudes the museum to an extent which causes the same complaints as those alluded to in the report for 1881; and these must be expected in proportion to the increase in number of manufacturers, designers, and others who study special objects in the museum for practical purposes. The use made of the museum in this direction is now so considerable as to prove that great value is attached to the privilege of sketching the objects, but care is always taken that objects on loan are not sketched without the written permission of the owner.

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LOCAL EXHIBITIONS.

The number of exhibitions held during the year 1882 is 40, as against 42 in 1881. All these the department assisted largely with contributions, as also to three exhibitions in connection with conversazoni, annual meetings of schools of art, and science classes. These are in addition to the deposit loans to provincial and corporation museums as reported in Table 8, and schools of art as detailed in Table 9.

Contributions were also sent to continental museums and exhibitions, asking for such assistance in consideration of loans to the South Kensington Museum, viz: Paris, Exposition Rétrospective of the Union Central des Arts décoratifs; Lisbon, National Museum of Ornamental Art; Berlin, Kunst-Gewerbe Museum; Stockholm, Royal Castle; Copenhagen, Amalienborg Palace of the late queen dowager of Denmark. The three last-mentioned exhibitions consisted entirely of objects of Indian art supplementing contributions from Her Majesty the Queen, his royal highness the Prince of Wales, his royal highness the Duke of Edinburgh, and the right honorable Lord Lytton.

Abstracts of objects acquired by purchase under votes c and 8, or by gifts, during the year ending December 31, 1882.

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[Summary of classes—January to December, 1882.*]

Class.	Objects.	Given.	Bought.	Cost.		
				£.	s.	d.
I	Sculpture in marble, stone, &c	88	48	1,214	5	2
II	Mosaics in stone and glass	....	6	48	12	0
III	Carvings in ivory, bone, and tortoise shell	6	3	118	5	0
IV	Woodwork, furniture, &c	125	28	2,125	6	6
V	Metal work	66	24	611	8	5
VI	Coins and medals	86	1	1,000	0	0
VII	Arms and armour	....	2	60	0	0
VIII	Silversmiths' work	16	14	1,464	15	1
IX	Jewelry and goldsmiths' work	224	4	616	4	0
X	Enamels on metal	114	9	162	0	0
XI	Pottery and porcelain	87	17	226	19	10
XII	Glass vessels and other objects	....	8	3	7	7
XIII	Painted and stained glass	....	1	1	1	0
XIV	Leather work and book-binding	234	3	35	0	0
XV	Textile fabrics, including embroidery	8	27	567	2	0
XVI	Lace	....	14	16	6	0
XVII	Musical instruments	10	203	581	8	0
XVIII	Paintings in oil and water color, &c	194	168	1,001	7	0
	Total	1,258	580	9,853	7	7

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* Thirtieth annual report of the Science and Art Department, page 543.

REPORT ON THE SOUTH KENSINGTON MUSEUM AND THE BRANCH MUSEUM AT BETHNAL GREEN, BY SIR PHILIP CUNLIFFE OWEN, K. C. M. G., C. B., C. I. E., DIRECTOR.*

The reports handed to me by the assistant directors and keepers show that steady progress has been made in the various divisions of the museums during the year 1883, and that the collections have been enriched by some important additions. It has been otherwise an uneventful year, and in laying their reports before your lordships no further comments from me are called for.

One point, however, may perhaps be fitly referred to here. Since the minute of 18th June, 1880, by which my Lords decided that loans renewable at the expiration of each year should be granted to the corporation museums a very considerable advancement has been made in the numbers of art collections issued annually by the circulation division of the museum. In 1879 annual loans were sent to four local museums only (not including affiliated museums at Edinburgh and Bethnal Green). This number has now increased to fourteen, and as numerous applications have already been received from other corporations for loans, it is anticipated that the number of museums assisted by the Science and Art Department will be greatly increased during the year 1884. In addition to these existing institutions many corporations are establishing museums in connection with their free libraries under the public libraries act, and in some cases the buildings are being provided by the munificence of private individuals.

In order further to show the desire of localities to avail themselves of the loan of collections from the South Kensington Museum, it may be stated that the number of objects circulated annually has more than doubled during the past 5 years, the number in 1878 having been 8,320 only, whilst in 1883 it was 17,498.

Several of the most important manufacturing towns in the United Kingdom have also taken advantage of the parliamentary vote by which my lords are enabled to grant aid towards the purchase of objects for museums in connection with the Science and Art Department or established under the public libraries act.

Appended is a return showing the amount of aid granted during the year.

Name of museum.	Aid by the Department.			Paid by the Provincial Museum.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.
Birmingham School of Art	35	7	3	35	7	3	70	14	6
Bolton, Chadwick Museum	146	8	6	146	8	6	292	17	0
Bradford Public Art Museum	174	8	8	174	8	8	348	17	4
Glasgow Corporation Art Galleries	250	14	10	250	14	10	501	9	8
Manchester Art Gallery	212	10	0	637	10	0	850	0	0
Nottingham Corporation Museum	200	7	3	200	7	3	400	14	6
Total	1,019	16	6	1,444	16	6	2,464	13	0

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THE ART COLLECTIONS.

Mr. George Wallis, the keeper of the art collections, reports as follows:

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ADDITIONS.

The number of objects acquired by purchase, gift, or bequest, during the year 1883, was 1,295, as against 1,942 in 1882, viz: General art collections, 1,285; Indian section, 8; and school examples, 2; as against general art collections, 1,685; Indian section, 153, and school examples, 104, in 1882.

PURCHASES.

The most important aquisitions of the year by purchase are—

(1) A pair of very fine vases of carved Soochow lac, from the summer palace, Pekin, £325.

(2) A Persian carpet of the middle of the sixteenth century, £308.

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* Appendix D, thirty-first annual report (for 1883), of the Science and Art Department of the Committee of Council on Education, with appendices. See pages 238–246.

(3) A collection of Chinese porcelain, glass, and lac, £250.
(4) A Persian canopy carpet of the seventeenth century, £200.
(5) A large and finely-wrought Japanese incense burner of inlaid bronze, with life size figures of peacocks, pigeons, and small birds, made by Kakô, £1,586 7*s*. 2*d*.
(6) A collection of antiquities, from Cyprus, pottery, glass, jewelry, &c., £234 10*s*. 11*d*.
(7) Three very important Flemish tapestries of the commencement of the sixteenth century, with designs representing the "Triumph of Fame," the "Triumph of Chastity," and the "Triumph of Death," part of the series illustrating the "Trionfi" of Petrarch, £2,775 0*s*. 6*d*.
(8) A Persian carpet of the middle of the sixteenth century, £250.
(9) Four drawings, by the late Dante G. Rossetti, £215.
(10) A portrait, in oil, of Mrs. Thomas Wheltham, by Sir Joshua Reynolds, P. R. A., £175.
(11) An oil painting, by Richard Wilson, R. A., and two water-color drawings of Salisbury Cathedral, by J. M. W. Turner, R. A., £288 15*s*.
(12) The decorative panelling of the sides, alcoves, and ceiling of a room, from Damascus, eighteenth century, £500.
(13) A salt cellar, a dish, and an ewer, fine specimens of Limoges enamel, by members of the "Courtois" family, from the Blenheim collection, £2,326 5*s*. 6*d*.
(14) Seven large Japanese carvings in ivory, £300.

GIFTS AND BEQUESTS.

Among the acquisitions of the year, by gift or bequest, are—

(1) A fresco, by E. Armitage, R. A., replica of portion of his large fresco in St. John's Catholic Church, Duncan Terrace, Islington, given by the artist.
(2) A marble bust of the late Sir Joshua Jebb, by P. MacDowell, given by Lady Jebb.
(3) A collection of Hungarian textile fabrics, embroideries, lace, &c., given by the royal Hungarian minister of public instruction.
(4) A carved and gilt sleigh, given by Sir Julian Goldsmid, Bart.
(5) A water-color drawing of the Bay of Naples, by the late Charles Vacher, bequeathed by the artist.

REPRODUCTIONS.

Plaster casts.—The casts acquired include a copy of the Virgin and St. Elizabeth, by Fra Paolins di Pistoia, in the church of S. Giovanni Pistoia; a collection of 50 casts of the architectural details of the Alhambra; copies of the figures in the Cathedral of Auxerre, presented by the Musée de la Sculpture Comparée, Paris, and a copy of five seals in one, the seal of Edward, Prince of Wales (1355 to 1375), now in the Musée de Toulouse, presented by M. Berthomien, from the Commission Archeologique de Narbonne.

Electrotypes.— A large proportion of the copies in electrotype of the objects selected from the museums and private collections in Russia has been supplied, and the remainder are being proceeded with.

A copy has been obtained of the Roman silver dish, 28¾ inches in diameter, being a representation, in relief, of the Emperor Theodosius appointing a magistrate; the dish was found in 1847 in a field near Almandralego, Estremadura, and it is now in the collection of the Academia de la Historia, Madrid.

Collection of casts from antique sculptures.—A large proportion of the casts selected by Walter Copland Perry, esq., to represent the history and development of Greek and Roman sculpture, has been received, upward of 280 being in the course of arrangement.

CIRCULATION.

Mr. Herbert M. Cundall, assistant keeper in charge of circulation, reports as follows:

The demand for the loan of art objects from museums, exhibitions, and schools of art gradually increases year by year. The number of provincial museums assisted by the department with annual loans is now 14 (not including the affiliated museums at Edinburgh and Dublin), this being an increase of 3 on the previous year. (*See* Table I, page 266.)

The following return of the museums to which loans have been granted for the past five years will show how the local authorities are gradually availing themselves of the collections in the South Kensington Museum; 1879, 4; 1880, 6; 1881, 8; 1882, 11; 1883, 14; and it is anticipated that there will be a considerable increase during the present year.

The number of exhibitions, conversazioni, &c., in the United Kingdom to which objects were lent was 44, being an increase of 1 on the previous year, the details of which are given on Table I, page 266. The more important of these exhibitions were held at the following places:

Cork, for the development of the industrial resources of the country, and artistic education of the people.

Oldham, for the purpose of raising a fund to furnish the new museum at the Free Reference Library in which the exhibition was held.

Huddersfield, for the benefit of the Technical School and School of Art.

Limerick, to promote the interests of the School of Art.

The students' work which gained medals and prizes after having been on view in the South Kensington Museum, were exhibited at Cork, Nottingham, Sheffield, and Burton-on-Trent.

The collection of Indian objects, supplemented by contributions from His Royal Highness, the Prince of Wales, and the Right Hon. Earl Lytton, noted in the last report for 1882 as being at Copenhagen, was subsequently removed to Amsterdam and exhibited during the summer months in connection with the International Colonial Export Exhibition, 1883.

This collection has now been returned in a satisfactory condition to the museum after having been exhibited at Berlin, 1881-'82; Stockholm, 1882; Copenhagen, 1882-'83; and Amsterdam, 1883.

With regard to loans to schools of art for the purposes of copying and study there has been a considerable increase in the demand, the total number of objects and paintings issued being 4,826, against 3,328 in 1882. The number of deposit loan cases containing objects for still-life study is now 68, an increase of 24, and still this number is not sufficient for the demand.

The total number of objects, &c., issued for various periods during the year was 17,498, being an increase of 415 on the previous year.

'4) *Abstract of objects acquired by purchase under votes F* 2 *and* 7, *or by gift, during the year ending December* 31, 1883.

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(5) [Summary of classes—January to December, 1883.*]

Class.	Objects.	Given.	Bought.	Cost. £.	s.	d.
I	Sculpture in marble, stone, &c	1	51	244	4	9
II	Mosaics in stone and glass	....	....	....	...	...
III	Carvings in ivory, bone, and tortoise shell	....	16	331	15	0
IV	Woodwork, furniture, &c	10	40	1,272	9	11
V	Metal work	3	25	1,779	17	2
VI	Coins and medals	4	1	0	0	11
VII	Arms and armor	....	13	99	0	0
VIII	Silversmiths' work	....	6	59	10	0
IX	Jewelry, goldsmiths' work, &c	1	75	330	10	10
X	Enamels on metal	1	29	2,611	18	9
XI	Pottery	3	667	1,251	2	8
XII	Glass vessels	....	79	126	13	5
XIII	Painted and stained glass	....	....	....	...	...
XIV	Leather work and book-binding	3	2	6	0	0
XV	Textiles	83	78	3,798	6	6
XVI	Lace	17	39	184	1	6
XVII	Musical instruments	3	2	15	10	0
XVIII	Paintings in oil and water-color, &c	4	29	1,341	0	0
	Total	133	1,152	13,452	7	5

* Thirty-first Report of the Science and Art Department, page 262.

(7) **Abstract of the cost of objects purchased for the art collections (excluding casts and electrotypes) showing the amount expended to December* 31, 1882, *and the further sum expended from December* 31, 1882, *to December* 31, 1883.

Class.	Description.	Cost to December 31, 1882.			Purchases from December 31, 1882, to December 31, 1883.			Total amount of purchases from the beginning of the collections to December 31, 1883.		
		£	s.	d.	£	s.	d.	£	s.	d.
I	Sculpture in marble, stone, &c	24,678	16	7	244	4	9	24,923	1	4
II	Mosaics in stone and glass	2,476	0	5				2,476	0	5
III	Carvings in ivory, bone, and tortoise-shell.	19,802	16	6	331	15	0	20,134	11	6
IV	Woodwork, furniture, &c	31,839	7	1	1,272	9	11	33,111	17	0
V	Metal work	25,778	11	8	1,779	17	2	27,558	8	10
VI	Coins and medals	3,932	8	5	0	0	11	3,932	9	4
VII	Arms and armor	4,245	10	4	99	0	0	4,344	10	4
VIII	Silversmiths' work	19,471	14	4	59	10	0	19,531	4	4
IX	Jewelry and goldsmiths' work	19,122	14	0	330	16	10	19,453	10	10
X	Enamels on metal	23,943	15	11	2,611	18	9	26,555	14	8
XI *A*	Earthenware and stoneware	27,682	10	7	749	19	8	28,432	10	3
XI *B*	Porcelain	10,617	2	2	501	3	0	11,118	5	2
XII	Glass vessels, &c	5,898	2	5	126	13	5	6,024	15	10
XIII	Painted and stained glass	2,045	0	11				2,045	0	11
XIV	Leather work, including book binding	1,352	18	2	6	0	0	1,358	18	2
XV	Textile fabrics, including embroidery	11,081	12	5	3,798	6	6	14,879	18	11
XVI	Lace	1,492	3	0	184	1	6	1,876	4	6
XVII	Musical instruments	4,634	11	0	15	10	0	4,650	1	0
XVIII *A*	Painting in oil, copies of ornament in tempera, &c	8,290	14	7	446	10	0	8,737	4	7
XVIII *B*	Water-color and other drawings, miniatures, illuminations, &c	8,939	13	2	894	10	0	9,834	3	2
	Meymar collection of Arabian art, &c., bought in 1869	2,261	0	0				2,261	0	0
	Objects bought in 1877 for the collective sum of	300	0	0				300	0	0
	First portion of the Robinson collection bought in 1879	3,800	0	0				3,800	0	0
	Second and third portions of the Robinson collection bought in 1880	3,000	0	0				3,000	0	0
	Small collection of objects bought in 1880 for the collective sum of	200	0	0				200	0	0
	Small collection of objects bought in 1881 for the collective sum of	100	0	0				100	0	0
	Total	266,987	3	8	13,452	7	5	280,439	11	1

* Thirty-first Report Science and Art Department, page 265.

VII.—THE ART LIBRARY.

REPORT OF THE MUSEUM-KEEPER AND LIBRARIAN OF THE NATIONAL ART LIBRARY.

Mr. R. H. Soden Smith, M. A., F. S. A., the keeper of the National Art Library, reports as follows:

ATTENDANCE.

I. The attendance in the Art Library during the past year amounted to 17,440 students and 6,006 subscribers, showing a decrease compared with 1882, when the numbers were respectively 18,299 and 6,584. There seems during 1883 to have been a general decrease of attendance in the various divisions of the museum.

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ACQUISITIONS.

The number of volumes and pamphlets acquired has been 2,294. Among these may be named two of the rare Venetian lace pattern books; the earlier, entitled "Bellezze de Recami et Designi," is extremely uncommon. It was brought out at Venice in 1558, and contains 20 pages of designs, many of great elegance, all in perfect condition, and including upwards of 100 patterns for lace borders; the other is also rare, "La Vera Perfettione del disegno de varie sorti di ricami, &c.," by Gionanni Ostaus, Venice, 1591; a rare work of Du Cerceau, containing elaborate engravings of ornament of the date 1594, a beautiful little volume in its original stamped vellum cover; a curious book containing receipts for dyeing and coloring, &c., sm. 4to., 1605, translated from the Dutch by Leonard Maskall, the author of "A Booke of Fishing with Hooke and Line," &c.; a fine series of the engraved works of Le Pautre, about 1,000 prints collected in 7 folio volumes; these volumes formed part of the Townley Library and represent very fully the various works of the great French decorative artist; Turner and Girtin's River Scenery, 1823–'30; two early publications by David Cox, now become rare, his "Lessons in Water Cours," 1823, and the "Young Artist's Companion," 1825; several works illustrating costume.

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Various publications having for their object the more complete illustration of the works of the great masters, as Amand-Durand's Eaux-Fortes et Gravures des Maitres anciens, 1870–'72; Unger, Musée National d'Amsterdam.

6. Some additions have been made to the class of illustrations of early printing and book ornament. The increasing zeal of collectors in this direction both at home and abroad renders it difficult now to acquire specimens except at prices practically prohibitive for the art library.

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DRAWINGS.

9. The number of original drawings acquired has been 2,822; of these 195 have been presented.

Among the latter may be mentioned a series of 120 pen sketches in Spain, by the late Sir M. Digby Wyatt, presented by Lady Wyatt; chalk studies of drapery, by Sir F. Leighton, P. R. A., presented by himself; an Italian colored drawing of an altar-piece from the original, by Luca della Robbia, presented by Lady Bourchier; of the drawings purchased may be mentioned a most interesting series of 248 original illustrations, folio size, of Hindoo costume, by Balthazar Solvyns, a Flemish artist, who brought out in Calcutta, in 1799, an important work on the native costume in a series of etchings by himself; these drawings, executed about 1798, are the originals which he made for his subsequently published plates. A set of the 15 large and elaborate illustrations of the decorative details of the "Taje Mahall" Agra, giving full-size examples of the beautiful inlay work; a valuable collection of 140 drawings of fruit and flowers, beautifully colored, which were executed for John, Count of Nassau, by John Walter about 1654, from plants growing in the gardens of the count's palace in the Duchy of Nassau. These drawings were acquired by the Earl of Bute, the minister of King George III, and bound for him in two handsome volumes; on the dispersion of his library they were obtained for Mr. Beckford, and thus came to the Hamilton Palace collection, from which they were bought for the art library. A set of 82 drawings of details of classical architecture made by Robert Adam, about 1750; 6 very interesting drapery sketches in oil, by Hogarth; upwards of 30 original studies, by Flaxman; academical and other studies, by Stothard, West, &c.; pencil drawings by Prout; many studies of sky, trees, and details of foliage by Varley and others; a collection of designs for various decorative objects, also for architectural ornament, by various Italian and other artists; a series of drawings of ancient armor and weapons by the late Lieut. Col. C. Hamilton Smith; a very highly finished drawing on a large scale in colors heightened with gold of a twelfth century. Altar frontal in the Wallraf-Richartz Museum, Cologne.

The collection of early illuminations has received the important addition of 355 pieces, chiefly initial letters from MSS. of the thirteenth to fifteenth centuries, including examples of the Italian, French, German, and Flemish schools of missal painting.

ENGRAVINGS, ETCHINGS, AND WOOD-CUTS.

10. The number of engravings, etchings, and wood-cuts added to the collection has been large, in all 18,107; of those presented may be mentioned a series of 80 etchings, by F. Goya, published 1799; and a collection of 262 engravings issued by the Calcografia Nacional, Madrid. Among the purchases are many classed series of architectural objects and decorative details, as towers and spires, chimney-pieces, staircases, doorways, pulpits, &c., besides croziers, chalices, vases, book-titles, and other series which are being completed for the special use of students of ornamental art; a few additions have been made to the collection of the works of the "Little Master" of the early German school; also to the wood-cut book ornament of the 15th and 16th centuries; a large and curious collection of upwards of 1,000 title pages, frontispieces colophons, and other book ornament, in six folio guard books, has been acquired; also another set of such subjects numbering more than 300, together with about 130 printers' devices, head and tail pieces, &c., besides large additions to the collections of woodcuts and other initial letters; the series of book illustrations of the last century has been added to, as well as that of portraits of artists.

PHOTOGRAPHS.

I. The number of photographs added to the collection has been 1,559. Among these, which for the most part are printed by processes believed to be permanent, may be mentioned a set of illustrations presented by M. de Champeaux, of decorative furniture exhibited by the "Union Centrale des Arts décoratifs" in Paris; a collection representing objects of antique art in the Royal Museum at Naples; several important series of autotypes illustrating the contents of the great European collections; among these last are 400 representing the paintings in the Prado Museum, Madrid, and a small series of the paintings in the Academy of San Fernando, upwards of 300 historical portraits exhibited at the Trocadero, Paris; the collection as far as yet issued of the paintings in the Galleries of the Hermitage, St. Petersburgh; also large illustrations of the decorative designs for the opera house, Paris; the society for photographing such remains of Old London as still are permitted to exist has issued a few photographs, of which two sets have been acquired.

LOANS TO SCHOOLS OF ARTS.

12. Sixteen hundred and forty-four diagrams, drawings, prints, and photographs have been lent to schools of art, for exhibition at institutions in the country, or for use in the lecture theatre.

The total number of prints, drawings, and photographs at present on loan to the Art Museum for exhibition or circulation, or otherwise in use out of the library, is upwards of 10,000.

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VIII.—EXTRACTS FROM THE ART DIRECTORY.

The following extracts from the Art Directory* will serve to show in detail the somewhat complicated methods by which government supervision is maintained and government aid extended to, the various classes of students and of institutions, engaged in prosecuting the study of industrial art. The object of the Government in thus extending aid to education in Industrial Art, with the requisite conditions for securing this aid, are clearly and succintly stated in this little book of official regulations. Observe, for instance, the care taken in the provisions for extending aid to art loan exhibitions in the provinces, to secure ample opportunities for the attendance of artisans on these exhibitions by the stipulation that they shall be open on two evenings in each week, at a nominal entrance fee of one penny. The Directory is revised each year and the latest edition supersedes all previous ones, but the changes are in details and comparatively few. The important changes in the latest edition of the Art Directory (August, 1884), and in the Calendar and General Directory for 1885 have here been inserted.†

PRELIMINARY CHAPTER.

"I. A sum of money is annually granted by Parliament for instruction in art in the United Kingdom, and is administered by the Science and Art Department, hereinafter called the Department. The nature of the aid given towards instruction in Science is fully explained in the Science Directory.

"II. The head of the Education Department, of which the Science and Art Department is a branch, is the Lord President of the Council, assisted by a member of the Privy Council, who is called the Vice-President of the Committee of Council on Education, and who acts under the direction of the Lord President, and for him in his absence. (Order in Council, 25th February, 1856, act 19 and 20, Vict., c. 116.)

"III. The object of this grant is to promote instruction in drawing, painting, and modelling, and designing for architecture, manufactures, and decoration, especially among the industrial classes.

"IV. To effect this object the Department will give aid towards the teaching of elementary drawing in elementary day schools and training colleges; towards the teaching of drawing in art classes; towards instructions in art in schools of art, and towards the training of art teachers. The art library and collections of decorative art at South Kensington are also made available for the purpose of instruction in schools of art."

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*"Science and Art Department of the Committee of Council on Education, South Kensington.—Art Directory, containing regulations for promoting Instruction in Art, with appendix. (Revised to August, 1884.) [The rules in this edition supersede those in all former editions, and are always subject to revision.] London: Printed by Eyre and Spottiswoode, printers to the Queen's most excellent Majesty. Sold by Chapman and Hall (Limited), 11 Henrietta street, Covent Garden, London. Price sixpence." 1884. pp. 115.

†The body of the text here given was taken from the edition of 1878 (in which year this Report was, for a second time, made ready for publication) and the notes and cross references of that edition are retained; such important additions or changes as appear in the latest edition (1884) or in the Calendar and General Directory (1885), are given. The official list of Art books, examples, and casts, which follow, are the latest issued.—EDITOR ART REPORT.

CHAPTER I.

AID TO ELEMENTARY DAY SCHOOLS.

"1. An elementary school is a school or department of a school at which elementary education is the principal part of the education there given, and does not include any school or department of a school at which the ordinary payments in respect of the instruction from each scholar exceed nine pence a week.

2. The Science and Art Department will encourage the teaching of drawing in elementary day schools* at which the children are instructed in drawing † by teachers holding art certificates of the second or third grade. (See page 68.)

3. The aid given by the Department consists of *payments* made to the managers ‡ of the school towards the cost of the maintenance and instruction of the drawing classes in the school; of *prizes* awarded to the children, pupil-teachers, or paid monitors only of the school whose exercises reach the standard of excellence; and of *grants* towards the purchase of suitable examples.

4. The Department will determine the number of payments and prizes to be awarded annually, by means of a very elementary examination, called of the first grade, in freehand drawing from copies, freehand drawing from models, and in practical geometry; and by a more advanced examination, called of the second grade, in freehand, geometric, perspective, and model drawing. (See page 112.)

The Department is the sole judge respecting all awards of payments and prizes, and cannot enter into correspondence respecting its decisions."

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CHAPTER II.

AID TO TRAINING COLLEGES FOR TEACHERS.

"11. Annual examinations § in drawing of the second grade are held, about November, at each of the training colleges under inspection, in any or all of the following exercises (see syllabus, p. 112): (*a*) Free hand drawing from plat examples; (*b*) practical geometry; (c) linear perspective; (*d*) model drawing; (*e*) delineation of large letters, numbers, diagrams, and other objects on the black-board. The marks given for these exercises are carried to each candidate's total for the certificate granted by the Education Department, Whitehall.

"12. Candidates who pass in all the five exercises named in paragraph 11 obtain the second grade certificate D (see p. 68, paragraph 3), which qualifies them to earn the payments conditionally made to the managers of elementary day schools on account of the teaching of elementary drawing concurrently with reading and writing. Prizes are given to all candidates who excel in the examinations.

"13. First-year students, ex-pupil teachers, or preparatory students ‖ may not be examined in more than three of the five required subjects; nor in black-board drawing, unless before entering the college they have passed in freehand, model drawing, and perspective; second-year students cannot be examined in the black-board exercise unless they have previously passed, or are prepared to pass at the same examination, in the other subject or subjects necessary to complete the certificate D.

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"15. *Grants of* 50 *per cent.* may be made towards the cost of examples approved by the Department. (Application must be made on form 49, see page 78.)

"The examples must be kept on the premises. If at any time it is found that examples, towards the purchase of which a grant has been made, are not properly taken care of, the aid of the Department may be withdrawn."

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* Grants will not be made to endowed schools unless their endowment be supplemented by an equal amount of annual subscriptions, by local rates, or by school fees not exceeding nine pence a week from each scholar.

As a general rule no endowed school is eligible to receive a grant towards the purchase of examples, &c., unless considerable local contributions are made in aid of it, and then only when the examples are clearly necessary.

Middle class schools and private adventure schools cannot be examined in first or second grade drawing under these regulations, but may be examined in second grade drawing only about May.

† Instruction in drawing may be given in the two hours of secular instruction required by the code of the Education Department in schools under inspection.

‡ Members of school boards and their officers are managers for the purpose of these rules.

§ Students of training colleges must be examined at these examinations only, and not with a school of art or art class in May. Acting teachers and pupil teachers can only be admitted to the examinations of training colleges under the rules contained in form 590. (See page 68.)

‖ Pupils in preparatory classes in Scotch colleges may be examined in the same sub-

CHAPTER III.

AID TO ART CLASSES.

"16. An art class is a class for instruction in elementary drawing.

17. The Department will give aid to such classes when conducted under the direction of a local committee * of not less than five well-known responsible persons, and meeting at least once a week, under instruction by a teacher or teachers holding the higher second grade or art class certificate † for elementary drawing, or an art master's certificate of the third grade. (See pgae 39 and appendix, page 68.)

18. Art classes may be held in mechanics' or literary institutions, schools, or in other educational institutions.‡

19. The Department will pay annually to the local committee of an art class the under-mentioned sums on account of the instruction, in the class, of students of the industrial classes only,§ or bona fide members of a night class ‖ for industrial students above 12 years of age,¶ who pay fees for being taught.**

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* The local committees of art classes must be constituted in accordance with the rules in form No. 88, which should be applied for in the first instance. The secretary of the committee must also fill up form No. 120. (See appendix, pp. 92 and 95.)

When a school or class is first formed, the form No. 88 must be signed at a general meeting of the committee. If the same committee continue to act, it will only be necessary in October to fill up form No. 168 (see appendix, p. 99), which expresses the willingness of the members to undertake their duties for another year; but no one can be a member of a committee or assist in conducting an examination who has not previously signed form No. 88.

A committee, already approved by the Department for the superintendence of a science class will not be required to fill up form No. 88 if the same committee establish an art class.

The committee should be formed and the form No. 88 submitted for the approval of the Department not later than the 31st of October. No payments on account of instruction will be made unless any alterations which may subsequently become necessary have been made and approved by the Department before the 31st of January preceding the examination.

Form No. 120 must be carefully filled up and sent to the Department immediately on the opening of a class, or on its reassembling after the vacation.

In all cases where payments are to be claimed on the results of the next May examination, the form 1[illegible]0 must be sent in before the 1st October; but alterations may be made in the classes afterwards by giving due notice to the Department.

† Candidates for the art class certificates must pass in geometry and perspective of the second grade, and in an examination in stages 3*b*, 5*a*, and 5*b* of the third grade. (See page 37.) Candidates may be examined in these subjects at the local examinations in May, provided that they have previously submitted successful works in stages 3*b*, 5*a*, and 5*b*, as required in paragraph 68, page 42.

No payments will be made except under this rule to classes established after the May examinations of 1879.

Classes already established under the instruction of teachers holding the second grade certificate for four subjects only, or certificate D, may continue to receive aid for the present.

‡ Drawing cannot be taught during the one hour and a half required, under article 22 of the education code, for general instruction in the night classes of public elementary schools, established under article 106-112 of the code.

§ Under "students of the industrial classes" are included only: (*a*) Artizans or operatives in the receipt of weekly wages; (*b*) coastgaurds, policemen, and others who, though in receipt of weekly wages, do not support themselves by manual labor; (*c*) teachers and pupil-teachers of elementary schools in connection with the Educational Department, Whitehall, or the National Board of Education, Ireland; (*d*) persons in the receipt of not more than £200 per annum from all sources; (*e*) the children (not gaining their own livelihood) of all such persons above mentioned.

‖ A night class is one that meets after 6 p. m. on week days, or 2 p. m. on Saturdays. If it should appear at any time that there is reason to suppose that a class is not a bona fide night class for industrial students, the Department may call on the committee of the class to certify the form of claim for each individual, under the foregoing definition.

¶ Children who attend elementary day school can only be examined in March, and are not eligible for examination in drawing of the second grade with an art class or school of art. Pupil-teachers, who have been examined in an elementary school in March may not be again examined in any second grade subject with an art class or school of art in the same year.

** Payments may be made on account of the pupil-teachers and paid monitors of elementary schools without their being required to pay fees.

30. The local committees of art classes must—

(*a*) Provide a suitable room, or rooms, for the meeting of the class,[*] and a place of sufficient size to carry out the examination in accordance with the regulations. (See p. 103.)

(*b*) Engage, and, when necessary, dismiss a certificated teacher. Keep registers of the students and their attendances;[†] and be responsible for the general conduct of the class.

(*c*) Send to the secretary of the Department, before the 31st of March, a statement in Form No. 119, of the number of students to be examined in each subject of the second grade.[‡]

(*d*) Be responsible, if required, for conducting the examination according to the regulations of the Department.

(*e*) Admit for examination candidates not connected with the class.

(*f*) Transmit to the Department for inspection, on or before the 9th of April, the works in the various classes, named in ¶ 19*b* and 19*c*, of students on account of whose instruction payment is claimed or who compete for prizes.[§]

(*g*) Certify that the students on account of whose instruction payment is claimed are persons of the industrial classes, as defined on page 13, foot-note †, or *bona fide members of a night class for industrial students;* that they have been instructed by teachers certificated by the Department, in accordance with paragraph 17, and that they have fulfilled the conditions on which payments may be claimed. (See paragraph 19*a*, p. 13.)

(*h*) Devote all payments received from the Department to the maintenance and instruction of the class in drawing.

(*i*) Admit at all times the officers of the Department to visit the class.[‖]

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[*] Should it be at any time reported that the premises are unsuitable, or not properly fitted, or that bad models or examples are used, the assistance of the Department may, after due notice, be reduced or withdrawn.

[‡] A general register in Form No. 486 must be kept for the whole school, and an attendance register in Form No. 486 B.

These forms of register will be supplied as soon as the annual report in Form No. 120 has been returned to the Department, or they may be applied for in Form No. 898, if it be inconvenient to return Form No. 120 on or before the commencement or reopening of the class.

The registers must be kept on the school premises so as to be always available whenever the class meets for inspection by the committee or by the inspectors of the Department. They must be sent to the Department with the claim for payment. The committee is responsible for the accuracy of the entries in these registers, and no grants will be made unless they are properly kept.

The general register must contain the name, age, address, occupation, and previous success, if any, of every pupil attending the classes.

At the end of the general register a space is provided where individual members of the committee are requested to record the visits which from time to time they make to the classes.

A new attendance register (Form No. 486 B) will be required each session, but a new general register is issued only when that previously sent has been filled up and forwarded to the Department.

The attendance register may be kept by the secretary, teacher, or other officer of the committee; in it must be entered, from day to day, the presence or absence of the students at each lesson.

It is important that the number opposite each student's name should be the same in both registers.

[‡] Care must be taken that no more examination papers are applied for than are actually required for use, and that only those students are sent in for examination who have been properly prepared. A record will be kept of the number of papers applied for, and the examiners will mark the papers of such candidates as obviously should not have been presented for examination. Whenever, under either or both of these heads, there is an excess of more than 10 per cent. over the number of papers which should have been applied for, a deduction of 6*d*. per paper of such excess may be made from the payments on results.

[§] Apply for Form No. 528. On the receipt of proper vouchers duly receipted the Department will pay the carriage of works which are within imperial size, *i. e.*, 21½ inches by 29½ inches, and the cost of suitable cases or packing materials used for the transmission of such works. The works of science classes submitted for examination under the conditions of Article LXXV of the science directory, must be sent up not later than the 15th of May. All claims (Form No. 525) must be sent to the Department before the 31st December. (See note on page 94.)

[‖] As often as may be necessary, an inspector of the Department will visit the class and report on the condition of the premises, the constitution of the committee, and the manner in which the regulations are carried out. If due notice of the visit of the inspector has been given, a meeting of the committee must be held to receive him, at which as many of the members as possible are expected to attend.

(*k*) Be responsible for the safe custody, on the premises, of all the examples, casts, &c., purchased with aid from, or lent by, the Department.

(*l*) Report any changes in the hours of meeting of the class, constitution of the committee, teachers, or other particulars of importance.*

31. Grants of 50 per cent. towards the purchase of art examples approved by the Department will be made to the committees of such art classes only as are held in connection with public institutions.†

As a general rule no endowed school is eligible to receive a grant towards the purchase of examples, &c., unless considerable local contributions are made in aid of its maintenance.

Grants are not made towards the purchase of examples for the use of private schools.

The examples must be kept on the school premises. If at any time it is found that examples towards the purchase of which a grant has been made are not properly taken care of the aid of the Department may be withdrawn.

32. The lien of the Department on art examples purchased with its aid will determine after 5 years continuous use of the examples, which will then become the absolute property of the school. But if the school closes before the end of 5 years the examples must be handed over to the Department or purchased by the committee. The committee may purchase the examples by repaying the sum granted by the Department, less one-fifth for each year that the examples have been in use.

CHAPTER IV.

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CHAPTER V.

AID TO SCHOOLS OF ART.

35. A school of art is a room or rooms devoted wholly to instruction in art, where examples of art are always accessible for study and inspection, and where instruction is given by a teacher holding an art teacher's certificate or certificates of the 3rd grade.‡ (See page 40.)

36. The Department will aid the instruction given in schools of art, when under the direction of a local committee of not less than 5 well-known responsible persons, § and instructed by teachers holding one or more art certificates of the third grade,‖ provided that day classes be held and that artisan night classes meet under the instruction of the master, in rooms approved by the Department,¶ for two hours at each meeting, and at least three times a week for 40 weeks in the year.

One member of the committee must be appointed to act as secretary, by whom all correspondence with the Department on the business of the school must be carried on.

37. The following payments will be made to the local committee of a school of art

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* The duties of committees and secretaries of art classes are stated in detail in Form 170, at page 92.

† Application for aid towards the purchase of examples must be made on Form No. 49. (See appendix, pp. 78–91.)

‡ Schools established under former rules, and which have been recognized as schools of art, will be admitted to the full benefit of the existing regulations, although not strictly conforming to the above definition.

§ The local committees of schools of art must be constituted in accordance with the regulations contained in Form No. 88, which should be applied for in the first instance. The secretary is also required to fill up Form No. 120, and, in the case of a new school, or new premises, No. 527. (See appendix, pp. 77, 100.)

‖ For list of persons holding third grade certificate see appendix, page 62.

Teachers holding third grade certificates granted before 28th January, 1869, are qualified without further examination to earn payments on results in science subjects I, II, and III, under the same rules and conditions as science teachers, all claims to these payments being subject to the rules of the science directory.

Teachers qualified to earn payments on results in science subject I are also qualified to earn payments on results of the art examinations of the second grade in practical geometry and perspective.

¶ Should it be any time reported that the premises are unsuitable, or not properly fitted or that bad models or examples are used, the assistance of the Department may, after due notice, be reduced or withdrawn.

on account of persons of the industrial classes* only, teachers or their children, above 12 years of age, who pay fees for being taught:

(*a*) Ten shillings for every exercise in free hand drawing from the flat, practical geometry,† perspective,‡ or drawing from models, satisfactorily worked in a given time by a student who has received at least twenty lessons since his or her last successful examination, each lesson being an attendance at a meeting of the class of at least *an hour's duration* on a separate day. Tho 20 lessons must all have been given during the 2 years next preceding the examination on the results of which payments are claimed.§

(*b*) Fifteen shillings, or a sum in proportion to the works sent up, but not exceeding 15*s*., on account of every such student who shall submit satisfactory works‖ executed *in the school* during the previous year in drawing from flat examples, mechanial or architectural drawing, drawing from geometric models, objects of general utility, or casts of ornament; outline drawings of the head or the figure, or of details of the figure from the round, or drawing flowers and foliage from nature.

(*c*) Forty shillings, or a sum in proportion to the works sent up, but not exceeding 40*s*., on account of every such student who shall submit satisfactory works, executed in the school during the previous year, in drawing, painting, modelling, or designing for architecture, manufactures, and decoration, and belonging to stages not included in clause 37*b*.¶

(*d*) Three pounds for every exercise marked excellent; £2 for every exercise marked good; £1 for every exercise passed satisfactorily, and worked at the local advanced art examination by a qualified student of the industrial classes, in any one or more of the subjects of that examination. (See paragraph 38).

(*e*) Three pounds, on account of a free studentship for every artisan, being a draughtsman, designer, modeller, or handicraftman, who shall have been two years in the school, and who shall be recommended jointly by the local committee and by the Department's examiners, and who shall submit satisfactory works under clause 37*c*.**

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* For definition of the industrial classes see note †, page 13.

† No candidates can be examined in the same year in second grade art practical geometry or perspective, and in science, subject I (practical, plane, and solid geometry).

The examination is based on Burchett's Practical Geometry, and Davidson's Orthographic Projection. (See syllabus, p. 112.)

This course may be regarded as preliminary to science, subject I (practical, plane, and solid geometry), and to the art examinations of the third grade.

‡ Burchett's Practical Perspective, and Jewett's Perspective are recommended for study. Dennis Third Grade Perspective, and Malton's Brook Taylor's Perspective carry the subject further.

§ Students cannot be re-examined in any subject in which they have once passed.

Students who pass the examinations in these sublects will receive certificates of the second grade. (See Art Form No. 590, appendix, p. 68.)

When payments have been by the Department on account of the success of students at the examination in science, subject I (practical, plane, and solid geometry), payments may not again be claimed should the same students be successful in practical geometry of the second grade in art.

‖ By satisfactory work must be understood a sufficient quantity of work well executed from examples of a good class in the section of study through which the student is passing. Payments will be made on account of students in modelling classes who send up a single satisfactory drawing or model, accompanied by a certified statement of the number of times the student has attended the modelling classes of the school during the year.

Preparatory sketches for designs or other preliminary work may be done at home, but all works submitted for payments or prizes must be *wholly* executed in the school, except studies of landscape or landscape details, which will be accepted if executed out of doors under the instruction of the master by students paying fees to the school of art.

¶ Payments *b* and *c* cannot be made on account of the same student in the same year, nor can more than the maximum payment be made on account of any student, even if he attend two or more schools or classes.

Under clause *b* are included stages 1, 2, 3, 4, 5, 6, 7, and 10 of the course of instruction pursued in the National Art Training School. Clause *c* includes all works in the stages of that course other than those in clause *b*. (See pages 37 and 39).

** Students on whose account the payment for a free studentship is made must be prepared to attend regularly for the year following the date of the appointment, and must be admitted to study in the school without payment of fees. Free studentships are not given to teachers who should study for the certificates referred to in paragraph 37*h*.

(*f*) Fifteen pounds for an art pupil-teacher in schools in which 20 students of the industrial classes are satisfactorily taught; and £30 for two art pupil-teachers, in schools in which 50 or more such students are satisfactorily taught.*

(*g*) Five pounds for every student being, or intending to become, an art workman or a designer for manufactures, trained in the school of Art, who shall obtain a national scholarship in the National Art Training School. (See page 52.)

(*h*) Ten pounds for every certificate of the third grade taken at the annual examination in London by a student belonging to the industrial classes, or by an art teacher, trained in the school of art.

(*i*) Ten pounds for keeping the necessary registers (see note §, p. 19) of students, and forwarding, at the appointed time, an annual report (in form 93*a*) of the proceedings of the school, made up to the 31st of July of each year.†

38 Advanced examinations limited to students in schools of art who have previously passed in the four subjects of second grade art, or have taken a third grade certificate or a third grade prize or national competition prize in the subject in which they are candidates for examination, and who have received in the school of art at least twenty registered lessons (as defined in paragraph 37*a*) may be held in local schools of art in the following subjects:‡ Anatomy, advanced perspective, architecture, design: The examinations in these four subjects are held at the same time as the second grade examinations. (See paragraph 41).

Drawing from the antique,§ drawing from the life, painting from still life:§ The examinations in these subjects§ are held in June or July.

39. Advanced examinations in modelling ornament (design); modelling from the antique, and modelling from life, will be held annually at South Kensington, to which those students only of local schools of art will be admitted who have previously taken a national competition prize in the subject of examination.

40. Prizes of the second grade will be given to students of all classes who excel in the second grade examinations, and candidates who pass at one examination in the four subjects of the second grade may receive a prize of the third grade. Students who excel in the local advanced art examinations will obtain a prize equivalent to a book prize in the national competition. Prizes of the third grade will be given to students who send up works of great merit in the classes named in clauses *b* and *c*, paragraph 37.‖ The degree of success for which these prizes may be awarded will be determined by the Department from year to year.

41. The Department will determine the number of payments to be made under clause 37*a*, and prizes to be given, annually, by means of examinations of an elementary character, called of the second grade. These examinations will take place about May. (See paragraph 29, p. 19, and first foot-note, p. 20.) The payments and prizes under

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* Industrial students who pass the second grade examination, or who send satisfactory works under clause *b* or *c*, will be considered to have been satisfactorily taught. The payments will be made after the examinations in April and May, for the services rendered during the preceding year, and the appointment and duties of the pupil-teacher must be fully notified in the annual report of the school of art. The selection and payment of art pupil-teachers, and the duties to be allotted to them, are left to the local committee, but not more than £15 will be paid by the department if one pupil-teacher only be engaged.

† This payment is contingent on artisan night classes being held three times a week for forty weeks during the school year, on the annual local examinations being properly conducted, and on sending works for the national competition. It includes all payments for clerical labor and for incidental expenses, connected with the examinations both in science and art. The report is made in the month of November, and the payment is made as part of the annual grant for the school year, which includes that month. Schools which have not been open a complete year ending 31st July can only claim a proportion of the grant.

‡ Students for whose success in any of these subjects, £2 or £3 is paid, cannot be again examined in the same subject; but students for whose success in any subject £1 only has been paid may be again examined in that subject, and £1 will be deducted from any payment which may become due on account of their further success.

§ No student may be examined in more than one of these three subjects (‡) at the same local advanced examination.

‖ These prizes will consist of works of art, books, instruments, &c. (See lists on page 119.) One prize only in each competition, second grade, advanced local examinations, third grade works and national competition, can be awarded to any student in any one year. No examples will be prescribed for prize drawings, but prizes will only be awarded for works executed from examples of a sound and useful character. Works executed in schools of art for special prizes (*e. g.*, those offered by some of the city of London companies) may also be admitted to the competition for department prizes under the above conditions. Prizes may be given for single works or for sets of drawings in the elementary stages.

clauses 37*b* and 37*c* will be determined by an annual inspection in London of the works of the various classes named.* NOTE.—As respects all awards of payments and prizes the Department will be the sole judge, and will not enter into correspondence respecting its decisions.

42. Teachers in charge of schools of art who may qualify themselves for advanced instruction by taking certificates higher than those they already possess, will be allowed a sum of £20 on taking certificates for groups 2, 4, or 5; £15 for group 6, and £30 for group 3.† (See page 40.)

43. Grants will be made to enable the masters of satisfactorily conducted schools of art to visit the South Kensington Museum, and other metropolitan institutions, in order that they may have an opportunity of inspecting the works sent from other schools, and of acquiring for the benefit of their students a knowledge of the latest progress made in those educational subjects which affect the schools. This grant is contingent on an artisan class being satisfactorily taught.

44. The local committee of the school of art must—

(*a*) Provide a room or rooms for the meeting of the classes, and a place of sufficient size to carry out the annual local examinations in accordance with the detailed regulations.

(*b*) Be responsible for the general conduct of the school; appoint and, when necessary, dismiss a certificated art master;‡ keep registers of the students' attendances, report any change in the teaching staff, and any other particulars of importance.

(*c*) Be responsible for the safe custody, on the premises, of all examples, books, &c., lent by the Department or purchased with its aid.

(*d*) Send to the Department before the 31st of March a statement, in Form No. 119, of the number of students to be examined in each of the subjects of the second grade.

(*e*) Be responsible, if required, for conducting § the examinations according to the regulations of the department. (See appendix, page 103.)

(*f*) Admit to the second-grade examination only candidates not connected with the school who may desire to present themselves.

(*g*) Transmit to the department for inspection, on or before the 9th of April, the works of students in the various classes named in paragraphs 37*b* and *c*, p. 25, on account of whose instruction payment is claimed, or who compete for prizes.‖

Models in clay or plaster are only to be transmitted when of great excellence and for the national competition (see paragraph 45), when they must be of imperial or half imperial size.

Casts should be made as light as possible, by the use of tow in the packing up. Works in glazed frames cannot be admitted. Works in oil must be packed, by the aid of corks or otherwise, in such a way as to prevent their faces from coming in contact with other works.

(*h*) Admit at all times the officers of the Department to visit the school.

(*i*) Certify that the students on account of whose instruction payment is claimed ¶ are teachers, persons of the industrial classes, as defined on page 12, foot note †, or bona fide members of a night class for industrial students; that they have been instructed by teachers certificated by the Department, in accordance with paragraph 36, page 23, and that each student, on account of whose success payment is claimed, has received not less than 20 lessons since the date of his or her last examination. (See paragraph 37*a*, page 24.)

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* The Department cannot undertake to award local prizes. Where it is desired to give such prizes according to the judgment of the Department's examiners, the local prize scheme should be so arranged as to adjust itself to the department's usual awards.

† This payment cannot be claimed within two years of quitting the training school, and will be reduced in proportion to the amount of preparation made for the certificate while in the training school.

‡ The committee should give notice to the Department when a master is required or advertised for. In cases of the master's temporary illness the Department will provide a substitute for him if the committee pay 20s. per week during the time his services are required. No substitute so provided can remain more than three months.

§ In towns where special local secretaries for examinations are appointed, the examinations in second grade will be conducted as provided for in paragraphs 25-28 (see p. 17), relating to art classes. The committee of a school of art may, however, hold their own examination in art subjects independently of the special local secretary, by giving notice on Form No. 119 of their desire to do so.

‖ The Department will pay the carriage of works sent up under these rules within imperial size, or when larger, if on stretchers, constructed to fold within the imperial size. The Department will also pay the cost of suitable cases or packing materials used for the transmission of these works on the receipt of proper vouchers, duly receipted.

¶ The form of claim for payment is No. 526. Claims must be made before the 31st of December. (See note on page 42.)

(*k*) Devote all payments received from the Department to maintenance and instruction of the school of art.

(*l*) Make an annual report of their proceedings in art Form No. 93*a*.*

45. The best works sent up for examination under paragraph 37*c*, p. 25, will be selected to enter into a national competition between the works of all the schools of art in the kingdom, and medals and prizes will be awarded to these students who execute the most meritorious of the competing works.†

46. The prize list will include twelve gold medals, distributed as follows:

One gold medal for the best drawing from the nude living model.

This study must be within the dimensions of an imperial sheet, and not less than 24 inches in height.

One gold medal for the best study from the antique, in chalk or monochrome.

This study must be from a single figure in the round, and must be executed within the dimensions of an imperial sheet.

One gold medal for the best study of the figure, modelled from the antique.

This study must be from a single figure, and not more than 30 inches in height.

One gold medal for the best painting of a group of still life from nature, as a composition of color, in oil.

The dimensions of this work should be of imperial size, *i. e.*, 22 by 30 inches.

One gold medal for the best painting of a group of still life from nature, as a composition of color, in water color.

The dimensions of this work must be 24 inches by 20 inches, or, if of other proportions, of equal or nearly equal surface.

One gold medal for the best painting of a head or nude figure from nature, in oil or water color.

The dimensions of this work must be 24 inches by 20 inches.

Six medals for the best designs in the three classes, architectural design, surface design, plastic design.

A statement of the purpose or material for which it is prepared should be given on every competing design.

NOTE.—Designs for carpets or similar woven fabrics drawn to a small scale must be accompanied by a portion of the design drawn to full size.

The design and portion so drawn should both be included on one imperial sheet.

One of these medals may be given for a work of a class not included under the above named heads.

Thirty silver medals, of which part will be given for the second best works in the various subjects to which gold medals are assigned, and the rest for meritorious works in the same, or the best works in other, subjects of study.

Sixty bronze medals for meritorious works in any of the various subjects of study.

47. Any of these medals may be withheld if, in the opinion of the examiners, the works in any subject are not of sufficient merit to deserve them.‡

Additional prizes of works of art, books, &c., will also be awarded.

48. Works executed during the previous year by students not belonging to the industrial classes, as defined at page 13, note †, will be admitted to the national competition and be eligible to gain prizes.

49. The works entering into the national competition will be exhibited in London and in some one of the more important towns of the Kingdom where suitable space can be provided.

Works executed by national scholars or students in training, in receipt of allowances in the National Art Training School, can receive only honorary rewards in the national competition.

50. A night class, taught by the master of a school of art, or by teachers holding

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* The duties of committees and secretaries are stated in detail in form 170. (See page 92.)

† No examples will be prescribed for competition, but the prizes awarded will be so distributed as to encourage students to pursue a sound and useful course of instruction. (See page 37.)

‡ Students who obtain more than one distinction in any national competition will be allowed the award attached to the highest distinction obtained, with a certificate of their further success. They cannot receive a national medal or reward of the same class twice for the same subject.

Students who obtain medals of the same class in more than one year's competition will receive books, &c., instead of medals. Gold or silver medallists may elect to receive, instead of books, a grant to enable them to visit the South Kensington Museum.

A student may receive a third grade prize in one stage and a national competition prize in another stage, in the same year, but he cannot receive more than one prize on account of any one work. All prizes must be claimed before the 31st of March following the date of the award.

certificates of the third grade under his direction, but meeting elsewhere under the management of the local committee, may be considered as a branch of the school of art, and works under clause *c*, paragraph 37, p. 25, executed in recognized branch classes may be sent up with the works of the School of Art for payments and for admission to the national competition. Particulars of such classes must be included in the annual report of the school of art (Form 93*a*).

51. A grant not exceeding 2*s*. 6*d*. per superficial foot of internal area will be made up to a maximum of 4,000 feet, in aid of new buildings or buildings to be adapted for schools of art, provided that—

(*a*) There be a population in the neighborhood which requires a school of art.

(*b*) The school of art is likely to be maintained in efficiency.

(*c*) The site, plans, estimates, specifications, title, and trust deed be satisfactory to the committee of council on education. (See appendix, p. 107.)

52. Grants of 50 per cent. of the cost of art examples approved by the Department will be made to the committee of schools of art which are held in connection with public institutions.* The examples, apparatus, &c., must be kept on the school premises. If at any time it is found that examples, &c., towards the purchase of which a grant has been made, are not properly taken care of, the aid of the department may be withdrawn.

The lien of the Department on art examples purchased with its aid will determine after 5 years' continuous use of the examples, which will then become the absolute property of the school. But if the school closes before the end of 5 years the examples must be handed over to the Department, or purchased by the committee. The committee may purchase the examples by repaying the sum granted by the Department less one-fifth for each year that the examples have been in use.

53. Special grants of works published under the sanction of the Department and of other examples will be made from time to time to such schools as have suitable premises for exhibiting and protecting them, and for their effective use as means of instruction.

54. In special cases where schools are established under a sufficient guarantee of permanency and are entirely devoted to instruction in art, aid to an amount not exceeding 50 per cent. of their cost will be given towards the provision of apparatus and fittings specially constructed, provided that the articles be approved by the Department before they are purchased.†

55. Schools of art are entitled to borrow from the South Kensington Museum and Library objects of decorative art drawing, oil paintings, prints, books, &c., for exhibition and for use as examples under the regulations given at pages 57 and 61.‡

The Department will also, guided by the classification of schools under the heads named at page 59, issue such works, reproductions, &c., as may appear suitable to be retained as deposit loans for longer periods.

56. Students of schools of art who propose to become teachers, and who have taken the first certificate of the third grade, are eligible to compete for admission to the National Art Training School at South Kensington, with a maintenance allowance of 15*s*. weekly, to which may be added personal payments not exceeding 20*s*. per week.§ Students who have passed examinations in three, or, if females, in two papers of the first certificate of the third grade, may compete for admission as free students.

57. Students of schools of art may compete for national scholarships of the value of from £1 to £2 per week, tenable at South Kensington for 1, 2, or 3 years. (See page 52.)

5‸. Two scholarships, called "the Princess of Wales Scholarships," of the value of £25 and £11, respectively, are awarded to the two female students who take the highest prizes of the year in the national competition.‖

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*Apply for lists of approved examples. (See Forms Nos. 49 and 30, appendix, pages 78 to 81.) In special cases aid may be given towards the purchase of works of reference or examples not included in the lists, provided that the approval of the Department be obtained before the purchase is effected.

† Application for this aid must be made in Form No. 662.

‡ Lists of drawings and paintings to be used as examples may be had on application. Application for books must be made on Form No. 273; for drawings, on No. 668.

§ These students are allowed traveling expenses to South Kensington.

‖ The Princess of Wales scholarships are tenable only in the school where they have been gained. Scholars may compete annually for the retention or renewal of the scholarships, but they cannot be held by the same persons for more than 3 years.

Each Princess of Wales scholar is required to present half-yearly reports of the course of study or occupation she has pursued during the year following the award of the scholarship. These reports must be sent through the secretary of the school of art in which the scholar is studying on 31st of January and 30th of June. A moiety of the sum awarded will be paid on the receipt of each report, if it be satisfactory.

CHAPTER VI.

THE NATIONAL ART TRAINING SCHOOL.

59. The National Art Training School at South Kensington is established for the purpose of training art masters and mistresses for the United Kingdom, and for the instruction of students in drawing, designing, and modelling, to be applied to the requirements of trade and manufactures.*

60. The course of instruction is as follows (it should be understood that it is not progressive in the order in which the stages are named):

Stage 1.—Linear drawing by aid of instruments.

(*a*) Linear geometry; (*b*) mechanical and machine drawing (from the flat, from blackboard lessons, or from elementary solids or details of machinery and building construction); (*c*) linear perspective; (*d*) details of architecture from copies; (*e*) sciography.

Stage 2.—Free hand outline drawing of rigid forms from flat examples or copies.

(*a*) Objects; (*b*) ornament (showing elementary principles of design).

Stage 3.—Free hand outline drawing from the "round."

(*a*) Models and objects; (*b*) ornament.

Stage 4.—Shading from flat examples or copies.

(*a*) Models and objects; (*b*) ornament.

Stage 5.—Shading from the "round" or solid forms.

(*a*) Models and objects; (*b*) ornament; (*c*) drapery; (*d*) time sketching and sketching from memory.

Stage 6.—Drawing the human figure and animal forms from copies.

(*a*) In outline; (*b*) shaded.

Stage 7.—Drawing flowers, foliage, and objects of natural history from flat examples or copies.

(*a*) In outline; (*b*) shaded.

Stage 8.—Drawing the human figure or animal forms from the "round" or nature.

(*a*) In outline from casts; (*b*1) shaded (details); (*b*2) shaded (whole figures); (*c*1) studies of heads from the life; (*c*2) studies of the human figure from nude model; (*d*) studies of drapery arranged on figure from antique or on the living model; (*e*) time sketching and sketching from memory.

Stage 9.—Anatomical studies.

(*a*) Of the human figure; (*b*) of animal forms; (*c*) of either, modelled.

Stage 10.—Drawing flowers, foliage, landscape details, and objects of natural history from nature.

(*a*) In outline; (*b*) shaded.

Stage 11.—Painting ornament from flat examples.

(*a*) In monochrome; (*b*) in colors (either in water color, tempera, or oil.)

Stage 12.—Painting ornament from the cast, &c.

(*a*) In monochrome, either in water color, oil, or tempera.

Stage 13.—Painting (general) from flat examples or copies, flowers, still life, &c.

(*a*) Flowers or natural objects, in water color, in oil, or in tempera; (*b*) landscapes or views of buildings.

Stage 14.—Painting (general) direct from nature.

(*a*) Flowers or still life, in water color, oil, or tempera, without backgrounds; (*b*) landscapes or views of buildings; (*c*) drapery.

Stage 15.—Painting from nature groups of still life, flowers, &c., as compositions of color.

(*a*) In oil color; (*b*) in water color or tempera; (*c*) in monochrome or light and shade.

Stage 16.—Painting the human figure, or animal, in monochrome from casts.

(*a*) In oil, water color, or tempera.

Stage 17.—Painting the human figure, or animals, in color.

(*a*) From the flat or copies; (*b*) the head from nature or draped figure; (*c*) time sketches and compositions.

Stage 18.—Modelling ornament.

(*a*) Elementary, from casts; (*b*) advanced, from casts; (*c*) from drawings; (*d*) time sketches from examples and from memory.

Stage 19.—Modelling the human figure or animals.

(*a*) Elementary, from casts of hands, feet, masks, &c.; (*b*) advanced, from casts or solid examples; (*c*) from drawings; (*d*) the head from nature; (*e*) the nude figure from nature; (*f*) drapery; (*g*) time sketches and modelling from memory.

Stage 20.—Modelling fruits, flowers, foliage, and objects of natural history from nature.

Stage 21.—Time sketches in clay of the human figure, or animals, from nature.

Stage 22.—Elementary design.

(*a*) Studies treating natural objects ornamentally; (*b*) ornamental arrangements to fill given spaces in monochrome or modelled; (*c*) ornamental arrangements to fill given spaces in color; (*d*) studies of historic styles of ornament drawn or modelled; (*e*) decorative arrangements of ornament and figures to fill given spaces drawn or modelled.

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* See also the prospectus, at page 70 of appendix.

Stage 23.—Applied designs, technical or miscellaneous studies.

(*a*) Machine and mechanical drawing, plan drawing, mapping, and surveys done from measurement of actual machines, buildings, &c.; (*b*) architectural design; (*c*) ornamental design, as applied to decorative or industrial art; (*d*) figure composition and ornamental design with figures, as applied to decorative or industrial art; (*e* and *f*) the same as 23*c* and 23*d*, but in relief.

These twenty-three stages of instruction are divided into six groups. Certificates of competency to teach the subjects included in each group are given to candidates who pass the necessary examinations, and are called certificates of the third grade.

The following are the groups which form the subjects of third grade certificates:

Group 1.—Elementary drawing and coloring, stages 1, 2, 3, 4, 5, 6, 7, 10, and 13.

Group 2.—Painting, with examination in styles of art and in the elementary principles of ornament, stages 8*b*, 11, 12, 14, 15, and 22.

Group 3.—The figure drawn and painted, with examination in the historic styles of ornament, stages 8*c*, 9, 15, 16, 17, and 22.

Group 4.—Modeling ornament, with examination in styles of art and in the elementary principles of ornament, stages 8*b*, 18, 19, 20, 22.

Group 5.—Modeling the figure, with examination in the historic styles of ornament, stages 8*c*, 9, 19, 20, 21, and 22*e*.

Group 6.—Technical instruction.

61. The examination for certificates of the third grade is held annually at South Kensington in February.

Applications for admission to this examination, together with the required works, must be delivered at the Department on the 20th of January.* Accepted works will be retained by the Department. The works of unsuccessful candidates and of candidates not proposing to earn payments from the state will be returned. Candidates may not present themselves for examination until they have been informed that their works have been accepted.

When candidates who have been successful in part of the exercises necessary to be passed for a certificate desire to sit for the completion of that certificate, the Department may require them to be re-examined in any exercise which they have passed more than three years previously.

62. The examinations will take place before the director for art, assisted by other examiners, and will be conducted partly by written exercises and partly by studies to be made in a given time.

63. Students of the National Art Training School who are not in receipt of allowance may obtain book prizes for success in the examination in subjects of the third grade. They may be examined in any of the subjects in which they have first submitted approved work.

64. Second class railway fare (return ticket) and 10*s*. for each whole day for expenses will be allowed to candidates from provincial schools who obtain certificates.

FIRST GROUP.

65. Candidates for certificates of the first group who have attended the National Art Training School must obtain a recommendation from the head master for admission to the examination.

66. Candidates from provincial, or other schools, must send the requisite drawings through the secretaries of their respective schools at the appointed date. (See paragraph 61.) They will receive notice to come up for examination if their works be approved.

67. Candidates must be prepared to (*a*) instruct a class in the presence of the examiners in free hand drawing, geometrical drawing, perspective and model drawing; (*b*) sketch in a given time a group of models placed by the examiners for that purpose; (*c*) solve on paper questions in geometry,† perspective,‡ and elementary architecture.§

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*Apply early in January for Form No. 138.

†Based on Burchett's Geometry. Candidates who have passed in the advanced stage of Science Subject I (practical, plane, and solid geometry) are exempt from this examination.

‡In the perspective paper credit will be given for a knowledge of the projection of shadows.

§The exercise in elementary architecture will require a knowledge of the five orders of classic architecture, with their mouldings, and a general knowledge of the principles of construction applied to ancient architecture, and also of the larger distinctive characteristics of Gothic architecture in England, from the time of Edward the Confessor to that of Henry VII. Female candidates and candidates who have passed in the advanced stage of science subject III (building construction) are exempt from the examination in architectural drawing.

All candidates who are not students of the National Art Training School will be required to execute an extra work in the presence of the examiners.

68. For the first group the following works, ten in number, are required to be sent up:

Stage 1*a*.—A sheet of geometrical problems. These may be six or eight problems selected to show the power of working neatly and exactly with instruments.

Stage 1*d*.—A sheet of architectural details. These should consist of classic capitals and mouldings, and Gothic openings for doors, or tracery for windows. These works in stage 1 must be executed in ink, Indian ink, or sepia.

Stage 2*b*.—A sheet of diagrams showing the application of the principles on which foliated design is constructed. These should be derived from Dyce's Drawing Book, Albertolli's Ornament, Jacobsthal's Grammatik der Ornamente, and the instruction of the masters.

Stage 1c.—A sheet of perspective diagrams. This should contain one or two problems neatly worked, showing the extent of knowledge possessed by the candidate.

Stage 3*b*.*—An outline of ornament in low relief from the cast. This may be done from the Madeleine or Louis XII pilasters, or any large ornamental scroll, and must be executed with a steady hand, and in a firm outline, the object being to combine correctness of drawing and neatness of execution with an application of the principles acquired in the previous stage.

Stage 5*a*.—A drawing from a group of models, shaded in sepia.†

Stage 5*b*.‡—A sheet of ornament shaded from the cast, in chalk. The egg-plant portion of the Ghiberti frieze or other piece of ornament in high relief.

Stage 6*a* or 8*a*.‡—An outline of the figure from the flat or round. Any complete figure from Morghen's Outlines, or other selected examples in the Department's list, or a sheet of outlines from sections of the face of Michael Angelo's David (Nos. 2248, 2249, 2250, and 2250*a*), together with the ears (No. 2200); or an outline of a head, or of a figure from the cast.

Stage 10*a* or 10*b*.—A sheet of foliage drawn from nature. This should be drawn with delicacy on an imperial sheet from a freely growing plant.

Stage 13.—A sheet of flowers painted from a good example of oil or water color painting, or from nature.

SECOND GROUP.

69. The certificate of the second group can be obtained only by candidates who have already obtained a certificate of the first group.

70. Candidates will be required to (*a*) answer, in writing, a paper of questions on the elementary principles of ornament and on the history and peculiarities of the ornamentation of the class chosen for illustration in the drawings sent up in stage 22 *d*; § (*b*) answer, in writing, a paper of technical questions on art, and on the general principles and execution of the several historic schools of painting; ‖ (c) answer a paper of questions on the nomenclature of structural botany ¶ and its application to ornament; (*d*) paint in monochrome a cast of ornament or other cast selected by the examiners, using any medium or vehicle which they may propose.

71. For the second group, the following works, seven in number, are required to be sent up:

Stage 8*b*.—A shaded drawing from an antique figure.

Stage 12.—A painting of ornament in monochrome from the cast, in oil or tempera. Should be of imperial size or thereabouts, and should be painted in a manner suitable for decorative purposes.

Stage 13 *or* 14.—A landscape, in oil, from nature or from some approved example. Should be of half imperial size or thereabouts.

Stage 14.—A study of flowers painted from nature in water color.

Stage 22*a*.—A sheet of studies of some plant or plants botanically analyzed with a view to ornamental details.

Stage 22c.—A sheet of at least two studies of ornamental arrangements in color. It is not necessary or advisable that these studies should be confined to the practice gained in the previous stage, 22*a*. One of these studies should be designed with a view to some special purpose or material; another should be an arrangement in some recognized style, the intention of the students in each case to be written under the study.

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* Candidates who have been admitted students at the Royal Academy as painters or sculptors may be exempted from presenting works in stages 3*b*, 5*b*, and 6*a*.

† Works in chalk or pencil will be admitted at the February examination in 1879.

‡ Candidates who have been admitted students at the Royal Academy as painters or sculptors may be exempted from presenting works in stages 3*b*, 5*b*, and 6*a*.

§ Redgrave on Design and the Grammar of Ornament, by Owen Jones, may be read for elementary principles.

‖ Leslie's Handbook of Painting, Reynold's Lectures, Crowe and Cavalcasselle's Flemish Painters, Kugler's Handbook of Italian Painters, Eastlake's Materials for a History of Oil Painting, and Field's Chromatography should be read for this examination.

¶ Based on Lindley's School Botany.

Stage 22*d*.—A set of studies executed during the period of training, from some one class of objects in the South Kensington Museum, sufficiently extensive to represent the history of the class selected.*

THIRD GROUP.

72. The certificate of the third group can be obtained only by candidates who have already obtained certificates of the first and second groups.

73. Candidates will be required to (*a*) answer, in writing, a paper of questions on the anatomy of the human figure, and draw from memory in a given time the bones or muscles within the outline of an antique figure; (*b*) answer, in writing, a paper of questions on the history of ornament of the various periods and styles; (*c*) answer, in writing, a paper on the history and peculiarities of the ornamentation of the class chosen for illustration in the drawings sent up in stage 22*d*; (*d*) sketch, in color, in a given time, a group placed by the examiners for that purpose, using any medium or vehicle which the examiners may propose; (*e*) make a time-study from the living model.

74. Candidates who are or have been students of the Royal Academy, and have been there admitted to study from the living model, are not required to perform this last-named exercise.

75. For the third group the following works, seven in number, are required to be sent up:

Stage 8 *c*.—A study in chalk from the living model.

Stage 9.—(Two drawings.) The bones and muscles placed within the outline of an antique figure, or of a study from the life, or of one of the photographs from the nude figure, by Michel Angelo, in the Sistine Chapel.†

Stage 15.—A study of a group, as a composition of color, in oil.

Stage 17*a*.—A painting of the human figure from a picture in oil.

Stage 17*b*.—A painting of the nude or draped figure from the life, in oil.

Stage 22*d*.—‡Varied studies of historic styles of ornament, sufficiently extensive to represent the history of the classes selected, sketched from works in the museum, the authority in each case being appended. If they are from colored ornament, the sketches are to be colored also.

FOURTH GROUP.

76. The certificate of the fourth group can be obtained only by candidates who have already obtained a certificate of the first group.

77. Candidates will be required to (*a*) answer, in writing, a paper of questions on the elementary principles of ornament; (*b*) answer a paper on the history and peculiarities of the ornamentation of the class chosen for illustration in the drawings sent up in stage 22*d*; (*c*) answer a paper of technical questions on the application of ornament to, and its modes of production in, various plastic materials, and to sketch from memory elementary details of ornament; (*d*) model in a given time a piece of ornament, in low relief, from a print or drawing.

78. For the fourth group the following works, six in number, are required to be sent up:

Stage 8*b*.—*An antique figure shaded from the cast.*

Stage 18*a*.—A modelled study of ornament from the cast.

Stage 18*b*.—A modelled study of ornament from a drawing.

Stage 19.—*A model of an antique figure in the round, rendered in relief.*

Stage 20.—A modelled study of flowers or foliage from nature.

Stage 22.—A modelled study of any one of the sections of this stage.

Stage 22*a*.—A sheet of studies of some plant or plants botanically analyzed with a view to display their ornamental details, drawn or modelled.

Stage 22*d*.‡—A set of studies executed during the period of training from some one class of objects in the South Kensington Museum sufficiently extensive to represent the history of the class selected.

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* It is intended by these studies to test the knowledge of ornament possessed by the candidate; he should therefore send a sheet or sheets of the most characteristic details of the best periods of the various styles, and should state the source from which the examples are derived. Candidates from provincial schools must use for the same purpose the works circulated by the department, such as casts, electrotypes, photographs, books, prints, &c.

† The photographs from the Sistine Chapel, numbered 27, 41, 47, 49, 51, 54, 55, in the list of the Autotype Collection, Rathbone Place, are suitable figures. Nos. 41, 47, and 54 are considered the best.

‡ See note * on page 43.

FIFTH GROUP.

79. The certificate of the fifth group can be obtained only by candidates who have already obtained a certificate of the first group.

80. They will be required to (*a*) answer, in writing, a paper of questions on the anatomy of the human frame; (*b*) answer, in writing, a paper on the history of ornament of the various periods and styles; (c) make in a give time a sketch in low relief from a print or drawing of an antique figure, giving the anatomical details from memory; (*d*) make a time-study from the living model.

81. Candidates who are or have been students of the Royal Academy, and there admitted to study from the living model, are not required to perform this last exercise.

82. For the fifth group the following works, six in number, are required to be sent up:

Stage 8*c*.—A study in chalk from the living model.

Stage 9.—An anatomical redering of an antique figure modelled.

Stage 9*a*.—A drawing of the skeleton placed within the outline of an antique figure.

Stage 19.—A model of an antique figure in the round, rendered in relief.

Stage 20.—A model of the human figure from nature, nude or draped.

Stage 22*d*.*—Varied studies of the relief ornament of historic styles sketched from the casts, carvings, metal work, &c., in the museum of the Department, with written authorities for each, and sufficiently extensive to represent the history of the various classes selected.

Stage 22*e*.—Decorative arrangements of ornament and figures to fill given spaces, drawn or modelled.

SIXTH GROUP.

83. Certificates of the sixth group are granted on proof of competency to teach (*a*) domestic architectural drawing, and (*b*) the special application of ornament to plastic and surface decoration for various fabrics, manufactures, and architectural purposes.

(*a*) A certificate for agricultural drawing can be obtained only by candidates who have already passed in group I. They must send in, together with their application for permission to compete, a tinted drawing, from measurement, of some architectural subject and a design with plans and sections. If these works are approved they will be required to answer a paper on the details of architectural construction, and on the characteristics of the *architectural* ornament of various historic styles and periods;† and to make a design from specifications of some architectural subject in the presence of the examiner.

(*b*) Candidates for a special certificate for ornament who have been educated in the training school must have previously taken certificates for groups 1, 2, and 3, or 1, 4, and 5. They will be required to send in, for permission to compete, two original works, painted or modelled, in order to show their technical skill as well as their power of designing; also a monograph, drawn up by themselves, of at least two historic styles, illustrated by sketches from works or drawings in the museum. They will be examined by papers, on the elements, history, and application of ornament, and will be required to design some work in the presence of the examiners.

84. The character of the examinations in this group, for special certificates of technical knowledge, will be determined by the nature of the applications for examination, and conditions will be prescribed according to the circumstances of each case.

85. Students who are preparing to become teachers, manufacturers'-draughtsmen, designers, or art workmen, and who have paid fees in the National Art Training School for two consecutive sessions, are entitled—

(*a*) On passing the whole of the second grade examination to attend their class for one year, on payment of half the usual fee.

(*b*) To a continuance of the same privilege for a second year only, if they have obtained a prize of the third grade at the annual examination, or a prize in the national competition.

(*c*) On passing satisfactory examinations in any three, or, if females, in two of the subjects of the first certificate, to free admission for one year, renewable for another year, provided that they obtain the first certificate, or a medal or prize in the national competition. Students who have paid fees for two consecutive sessions in any school of art under inspection, are also entitled to free admission to the training school on the conditions stated in this article.

(*d*) After obtaining the first certificate, or a national scholarship (see page 52), to a continuance of free admission, provided that they take annually a prize or medal in the national competition, or pass an examination in one or more subjects of the second group.

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* See note * on page 43.

† The text books are Ferguson's History of Architecture and Fairholt's Dictionary of Terms in Art.

86. Such students are also eligible to compete for weekly allowances of 5*s.*, 10*s.*, or 15*s.*, according to their progress in the school and the certificates obtained, in return for which they may be required to perform certain duties as teachers, and must engage to accept the situations to which they are recommended.*

87. A limited number of students in training as art teachers, provided that they have obtained the first certificate of the third grade, will receive an allowance of 20*s.* a week, which may be increased in accordance with their position in the class to 35*s.* a week. The allowances are granted for one session only, but may be renewed at the discretion of the department according to the progress and conduct of the student, and the demand for certificated teachers. No student will be allowed to remain in training after having obtained five certificates.

These students will be admitted on probation for one session, during which time they will be required to give instruction in elementary schools and district schools of art, as a part of their training. and in order to test their power of teaching; and they may be required to continue these duties throughout the period of their training.†

88. Students of the Royal Academy who have obtained admission to the life-class there, will be entitled to compete for free admission to the training class, and to receive an allowance of 15*s.* per week on the completion of the works for the certificate of the first group, if such works are passed by the principal. This allowance will be withdrawn if the candidate does not succeed in obtaining the first certificate at the next examination.

89. Works executed by students in training and national scholars are admitted to compete for honorary awards in the national competition.

90. Application for admission to the training classes must be made on the 20th of February, or 20th of September, in form No. 488. (See appendix, p. 109.)

91. In order to assist female students to qualify them as art teachers, they are admitted to the training school subject to the foregoing rules.

Female students in training may receive for a period of two years an allowance of from 5*s.* to 15*s.* a week, according to vacancies on the list, to enable them to obtain certificates of the third grade.

They may continue to receive an allowance for another year while working for the certificate of the third group, provided that they obtain the certificate of the second group within the two years, and their progress and promise justify the extension.‡

92. A limited number of duly qualified students from the local art schools will be appointed to national scholarships in the national art training school, with weekly allowances for maintenance of 20*s.*, which may reach 40*s.*, according to the work of the scholar.

Students who are already engaged in designing for, or in producing works of art manufacture, are the most eligible candidates for these scholarships, which are intended to enable advanced students, who may have given evidence of special aptitude for design, to prosecute their studies in the training school and museum.

The duties of the national scholars will be defined by the principal. Appointments to these scholarships will be for one year only. They may be renewed for a second year, and in special cases of great proficiency for a third year.

Applications, accompanied by drawings, designs, or other evidence of the candidate's ability, must be made on the 20th of February or the 20th of September on Art Form No. 488. (See appendix, page 109.)

93. An open competition for admission to the national training school for teachers in schools of art is offered to candidates of all classes under the age of nineteen years.

94. Candidates must produce—

(*a*) Certificates of age and character.

(*b*) A certificate of having passed the Oxford, Cambridge, or Durham local examinations, the Society of Arts examinations, or the examination for the diploma, or first class certificate, of the College of Preceptors in the following subjects: English grammar, English history, arithmetic, writing, Latin, or a modern foreign language.

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* It must be understood that students in training are not at liberty to accept situations advertised *or otherwise made known* without first obtaining the consent of the principal, the Department reserving to itself the right of selection from among them.

† The works executed in the schools during this period must be submitted to the principal for approval at the end of the session, but they will not necessarily be admitted as part of the works required to be sent up for further certificates of the third grade.

‡ Subject to the approval of the principal, female students in training may accept engagements as teachers, and may receive reduced allowances, in proportion to the time remaining for studies connected with their certificates. The duration of the allowances will in no case exceed three years.

It must also be distinctly understood that at the termination of the allowance the Department in no degree undertakes to provide or obtain employment, as teachers or otherwise, for male or female students so trained.

(*c*) The certificates of the Science and Art Department in free hand and model drawing of the second grade. Application for admission must be made on or before the 20th October on Form No. 488*a*, which may be obtained from the secretary of the department (see page 111).

95. Candidates must submit works in drawing, painting, or designing, to show the nature and extent of their qualifications. Those whose works are of sufficient merit will be admitted to a competitive examination in the following subjects: (*a*) Drawing from the cast, of ornament or of the figure; (*b*) painting in color from still life, or from the life (a head); (c) drawing from memory or designing; (*d*) modelling of ornament or the figure (this may be alternative with subject *a*).

96. Allowances for maintenance will be made to successful candidates, as follows:

(*a*) On admission an allowance at the rate of £30 a year, not to be held for more than three sessions without taking the certificate for the first group (elementary drawing and coloring) of the third grade in art. On taking this certificate—

(*b*) The allowance may be increased to £52 a year, not to be held for more than two years without taking a further certificate of the third grade, either for group 2 (painting), or group 4 (modelling ornament), or group 6 (architectural drawing). On taking this second certificate—

(*c*) The allowance may be increased to £65 a year, not to be held for more than two years without taking a further certificate of the third grade for groups 2 or 3 (figure drawing and painting), or 5 (modelling the figure). On taking this third certificate—

(*d*) The allowance may be increased to £78 a year for not more than two years, to enable the student to prepare for a further certificate.

97. The student will then be highly qualified as an art teacher, and will be in a position to earn the grants allowed by the department on the results of instruction given in art schools.*

98. Students may be recommended as, and must be prepared to become, teachers in schools of art at any period after they have obtained the certificate for group I, third grade.

99. Should the conduct or progress of students be unsatisfactory, their allowances may be reduced or wholly withdrawn.

CHAPTER VII.

CIRCULATION OF BOOKS AND OBJECTS OF ART.

100. The museum at South Kensington contains objects collected with a view to illustrate the history, theory, and practical application of decorative art.

101. Collections are formed of objects in the art museum suitable for exhibition in connection with local schools of science and art.

102. Selections from these collections may be made according to the special requirements of any locality. They include the following classes, viz:—

Division I. Marble and stonework.
II. Mosaics.
III. Carvings in bone, ivory, &c.
IV. Woodwork.
V. Metal work.
VI. Coins and medals.
VII. Arms and armor.
VIII. Silversmiths' work.
IX. Jewelry.
X. Enamels on metal.
XI*a*. Earthenware and stoneware.
XI*b*. Porcelain.
XII. Glass vessels.
XIII. Stained glass.
XIV. Leather work, including book-binding.
XV. Textiles.
XVI. Lace.
XVII. Musical instruments.
XVIII. Decorative printing.

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* It must be distinctly understood that at the termination of these allowances the Department in no degree undertakes to provide or obtain employment for students who have been so trained.

103. The following series are mounted in suitable glazed frames for exhibition:–

Objects.	Size of frames.
PHOTOGRAPHS.	
Furniture	
Architectural details	
Miniatures	Imperial.*
National portraits	Imperial.
Original drawings by various old masters.	Various.
Original drawings by Raphael	Royal.
Cartoons by Raphael, and studies from the cartoon	38¾ by 27½.
Original drawings by Michael Angelo	Royal.
Original sketches by Watteau	
Holbein's portraits from royal collection	Royal.
Photographs (various) presented by Mr. Henry Vaughan	Various.
Spanish and Portuguese ecclesiastical architecture	Royal.
Spanish and Portuguese plate	Imperial.
Photographs, partly colored, of decorative art needlework, from special loan exhibition 1873	Royal.
Old London	Royal.
COLORED PHOTOGRAPHS OF VARIOUS OBJECTS OF ART.	
Enamels	Imperial.
Crystals	
Precious materials and earthenware	
ETCHINGS.	
Original etchings by members of the Etching Club, and other artists	Royal.
Landscape etchings by C. P. Slocombe	Royal.
Etchings of objects in the South Kensington Museum executed by students of the etching class, under the superintendence of the late Mr. R. J. Lane, A. E. R. A., Parts I, II, III, IV, V	Imperial.
ENGRAVINGS	Various.
DRAWINGS.	
Original drawings for the "Grammar of Ornament"	Royal.
Examples of students' works	Imperial.
Drawings by students, "Illustrations of Stage Instruction in Schools of Art"	Imperial.
Oil paintings selected chiefly from the Sheepshanks, Townshend, and Parsons collection	
Historical series of water color paintings from 1710	Irregular.
Water color drawings	
Water color drawings of Indian scenery, &c., by W. Simpson	Imperial. Royal.
Drawings in crayon, sepia, Indian ink, &c	
Original drawings made for the publications of the Arundel Society	Various.
Forty-four architectural sketches made in France, Italy, &c., by the late Mr. Godfrey Sykes	Imperial.
Original designs by E. J. Poynter, R. A	
Designs for decoration of the permanent building South Kensington Museum	
Illustrations, "History of Lace," by Mrs. Palliser	
"Designs for lace making," by Mrs. Hailstone	
Chromolithographs of objects in the South Kensington Museum	Imperial.
Original drawings of plant form, by F. E. Hulme	Imperial.

* Imperial frames are each 33¼ by 24¾; royal frames, 24¾ by 20.

The series will be added to from time to time according to the acquisitions made by the Department, and the requirements of the various schools of science and art.

104. Suitable glass cases, for the objects belonging to the art collections which require such protection, are provided by the Department.

105. Every specimen exhibited in these cases is accompanied by a card label on which is printed its title and description, and all framed matter is labeled in a similar manner. As soon as the contribution of objects has been officially decided upon, information for cataloguing purposes will be sent for insertion in any printed catalogue of the exhibition, on a special application being made for such information.

Applications for the loan of glass cases for the protection of local contributions may be made, and, when practicable, such cases will be forwarded; the local committee defraying the cost of packing and the carriage of such cases from, and on their return to, the South Kensington Museum (as a separate transaction from the loan of the art collection).

106. The conditions under which collections of art objects are circulated to schools of science and art are as follows:—

(*a*) Adequate provision must be made by the committee of the local school for exhibiting the collection, during a limited period, to the students and the public, both in the day-time and the evening; such provision to be first approved by the department.

(*b*) It should be understood that in contributing objects, the department does not undertake to make an exhibition, but to add to collections of objects brought together by committees of schools and contributed by the localities in which such schools are situated. It is of great importance on such occasions to bring together, as far as possible, all art objects of interest in the district.

(*c*) Artisans being students of the school must be admitted free; but all other persons should pay a moderate fee for admission, which should be higher in the morning than in the evening. To enable artisans, not students in the school, and others employed in the day-time to share in the benefits to be derived from the collection, the fee on two evenings in the week is not to exceed one penny each person.

(*d*) Should there be a balance of profit after all local expenses are paid, it must be applied for the benefit of the school with which the exhibition is connected.

107. Arrangements for carriage must be made by the local committee with the railway companies or carriers. When the Department is called upon to contribute to this charge, payment will be made to the authorized officer of the exhibition, on the production of a certificate of the cost, supported by the railway company's receipts. The Department claims the right of sending collections by the route considered to be the safest.

108. Applications for circulating collections for exhibition during any year must be made on or before the 31st March of each year, and the committee must be prepared to furnish in (Form 605) the Department with full information, when asked for, as to the nature of the building in which the exhibition is to be held; provision for the safety of the objects from fire, police arrangements, the admission of the public, especially artisans, the dates of opening and closing the exhibition, and on such other points as may be deemed necessary.

109. Application for any of the series of engravings, photographs, &c., named in the table at page 55, may be made at any time. The charges for carriage to the local school must be paid by the local committee, but the Department will pay the carriage back. The local committee must guarantee the security and safe return of the works lent; and the secretary upon receiving any work of art from the Department must immediately report its condition to the Department, should it be received by him in a state damaged or calling for remark, such as injury to the frame, breakage of seal, &c.

110. A collection of 105 oil paintings and 437 water color drawing studies, &c., is now formed, from which schools of art may borrow for the use of the students as examples for study. Two to six may be lent at one time for a period of 12 weeks on the same conditions as books from the Art Library. The local committee must enter into the same guarantees as for the framed works lent for exhibition.*

111. The principle of circulation is extended to the deposit on loan, in schools of art for lengthened periods, of art objects not required for exhibition in the central museum, of reproductions, and other examples suitable for study.

112. The period for which examples may be deposited in the schools will be determined by the nature of the object and the circumstances of particular schools.

113. With reference to arrangements for the deposit, loan, exhibition, and circulation of objects of art, buildings affording accommodation for schools of art and art classes have been classified as follows:

Class A.—Schools expressly built for, and devoted wholly to, purposes of art, having sufficient galleries for the exhibition of works of art at all times, and subject to proper legal trusts for securing permanency of tenure for public use in respect of such purposes.

Class B.—Premises mainly, but not wholly devoted to the accommodation of art schools, and expressly built to contain such schools, having not less than 1,500 superficial feet of floor space in which objects of art may be permanently placed, and subject to proper legal trusts for securing permanency of tenure for public use in respect of such purposes.

Class C.—Premises not originally built for schools of art, but having not less than 1,500 superficial feet of floor space exclusively devoted to the purposes of art instruction, and a room set apart for a library.

Class D.—Rooms, not fewer than three in number, in which art classes are held, but which are not exclusively occupied for that purpose, and having not less than 1,000 feet of floor space, where casts of statues of the size of life, &c., may be permanently placed, and having cases for a library of books.

Class E.—Rooms in which art classes are held, but which do not fulfil the conditions of any of the preceding classes.

114. Exceptional applications from localities where no school of science and art exists will also be considered to a limited extent, on conditions determined by the circumstances of each case. (1878.)

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* The form of application is No. 668. A list of these works, to which additions will be made from time to time, may be had on application.

115. The Art Library (1878) is a collection of about 43,000 books, 17,000 drawings and designs, 60,000 prints, and 43,000 photographs

116. The objects of the library are special: First, for the instruction of students of the National Art Training School, and the schools of art; and, second, for the use of the general public on subjects connected with the history, practice, and illustration of art.

117. The collection of original drawings and prints illustrates ornamental art and affords materials of study for students and others. The collection of photographs includes architectural subjects, examples of ornament, and specimens of art from various public and private collections, both in Great Britain and abroad.

118. The department affords to the schools of art of the United Kingdom the privilege of sharing in the use of this collection as far as the extent of it permits.

119. Works will be lent to every school of art, according to the definition on page 23, for periods of four weeks. No book below the value of 10*s.* will be circulated. Schools are entitled to borrow two folios, four quartos, or eight octavo volumes at one time.* The works lent must be kept and used in the school.

120. The charges for carriage to the local school must be paid by the local committee, but the department will pay the carriage back.

121. The local committee must guarantee the security and safe return of the works lent; and the secretary upon receiving any work of art from the Department damaged, or in a state calling for remark, such as injury to the frame, breakage of seal, &c., must immediately report its condition to the Department.

122. Tickets of admission to the South Kensington Museum and Library, and the branch museum at BethnalGreen, may be obtained by persons of the following classes on application to the secretary of the science and art department, S. W.:

(*a*) Persons engaged in teaching and certificated either in second or third grade art. (*b*) Teachers of public elementary schools holding the certificate of merit of the Education Department. (*c*) Students of the Royal Academy of Arts. (*d*) Students attending local schools of art, art classes, or training colleges, who have been successful in the second grade examinations, or who have taken medals, medallions, or other Department prizes.

All students must apply through the secretary or head teacher of thoir school, class, or college.

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* The form of application is No. 273.

IX.—LIST OF EXAMPLES AND BOOKS, ETC.*

[*Art Form No.* 30.]

APPROVED BY THE SCIENCE AND ART DEPARTMENTS FOR USE IN ELEMENTARY SCHOOLS, TRAINING COLLEGES, ART CLASSES, AND SCHOOLS OF ART.

[Messrs. Chapman & Hall (Limited), 11 Henrietta Street, Covent Garden, W. C., are the Department's agents for the supply of most of the examples and books, &c., specified in this list. *Note*: Schools and classes eligible to receive aid from the Science and Art Department are allowed 50 per cent. of the cost of examples selected from these lists. Application for this aid must be made in Form No. 49. Grants are not made towards the purchase of examples for the use of private schools.]

(1) *A collection recommended by the Department for beginning in elementary day schools.*

Rotation number.	Description of Article.	Retail price.		
		£	*s.*	*d.*
	Free hand examples for class teaching, 6 large diagrams, the set	0	9	0
1710	De la Rue's free hand outlines of common things, 48 subjects	0	5	0
317	Box of models	1	4	0
319–328	One wire quadrangle, with a circle and cross within it, and one straight wire; one solid cube; one skeleton wire cube; one sphere; one cone; one cylinder; one hexagonal prism.	2	2	0
148–222	One set of a selection from Dyce's drawing book, 15 plates, mounted back and front	0	6	6
285	Diagram of color	0	0	9
958	Specimens of the drawing board, T square, compasses, books on geometry and color, case of pencils and color box prepared for students and elementary schools	0	14	0
	Vere Foster's drawing books:			
	(*a*) 24 numbers, at 1*d*. each	0	2	0
	(*b*) 46 numbers, at 3*d*. (the set *b* includes the subjects in *a*):—A 1-2, Elementary; B 1-2, simple objects; C 1-2, familiar objects; D 1-2, simple flowers; E 1-3, flowers; G 1, flowers; I 1-4, ornament; J 1-4, trees; K 1-4, landscape; M 1-4, marine; O 1-10, animals; R 1-3, geometry; T1-6, mechanical	0	11	6
	Vere Foster's drawing cards:			
	First grade, set I, Familiar objects; packet of 24 cards	0	1	0
	set II. Leaf form, geometrically treated; packet of 24 cards	0	1	0
	set III, Elementary ornament; packet of 24 cards	0	1	0
	Second grade, Ornament, by F. E. Hulme, F. S. A.; packet of 16 large cards.	0	2	0
	Elementary drawing copy books, for the use of children from four years old and upwards, in schools and families, 1 to 7 books; the set	0	4	6
	Carroll's Free hand Drawing Lessons for the Blackboard	0	6	0
	Anderson's Perspective and Model Drawing	0	2	0
	Poynter's South Kensington drawing books issued under the superintendence of E. J. Poynter, R. A.):			
	Elementary free hand ornament—			
	Book I, simple geometrical forms; book II, conventionalized floral forms, &c., each	0	0	6
	Free hand, first grade: — Book I, simple objects and ornament; book II, various objects; book III, objects and architectural ornament; book IV, architectural ornament; book V, objects of glass and pottery; book VI, common objects, each	0	0	6
	Free hand, plants, drawn from nature: — Book I, leaves and fruits, simplest; book II, leaves, flowers, fruits; book III, flowers, fruits, &c.; book IV, flowers and foliage; V, flowers; book VI, flowers, each	0	0	6
	Poynter's South Kensington drawing cards, containing the same examples as the books: — First grade free hand cards, 6 packets, each	0	1	0
	Plants, drawing cards, 6 packets, each	0	1	0
	40 diagrams of geometrical forms for collective teaching, mounted on 20 mill-boards on both sides, and varnished, per set	0	10	0

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*In the United States, Professor Walter Smith, when Art Director of the State of Massachusetts, in the lack of any models for free-hand drawing suitable for use in public schools, arranged and designed a series of such models, which the Worcester County Free Institute manufacture in various sizes. The art director also invented articles for mechanical drawing so inexpensive as to admit of general use in public schools. Many educational publishers in the United States publish books and material for use in instruction in drawing. In the absence, however, of any authority as to what material is most useful, it has been thought advisable to insert the following lists approved by the English Science and Art Department.—EDITOR ART REPORT.

(2) *Collections (a to f) selected as suitable for instruction in art classes and schools of art.**

(*a*) COPIES FOR OUTLINE DRAWING.

Rotation number.	Description of Article.	Retail price.		
		£	s.	d.
	Poynter's South Kensington drawing books (issued under the superintendence of E. J. Poynter, R. A.):			
	Freehand, second grade—			
	Human figure—			
	Elementary—			
	Book I, features in outline, from "David," by Michael Angelo; book II, masks from antique sculpture; book III, hands from sculpture; book IV, feet from sculpture, each	0	0	6
	Book I, various forms of anthemion. &c.; book II, Greek, Roman, and Venetian; book III, Italian renaissance; book IV, Roman, Italian, Japanese, &c., each	0	1	0
	Figures from the "cartoons of Raphael," 4 books with space for copying, each book containing 3 figures with engraving and instructions, each	0	2	0
	Poynter's South Kensington drawing cards containing the same examples as the books—			
	Elementary free hand cards, 4 packets, each	0	0	9
	Second grade free hand cards, 4 packets each	0	1	6
	Elementary perspective, parts I–IV, each	0	1	0
	Elementary perspective, also complete in 1 volume, cloth	0	5	0
148–222	Dyce's Elementary Outlines of Ornament, 50 selected plates, 1 set, mounted back and front	0	18	0
148–222	The same, unmounted, sewed	0	5	0
223–234	Weitbricht's Outlines of Ornament, reproduced by Herman, 1 set, 12 plates, mounted back and front	0	8	6
223–234	The same, unmounted	0	2	0
235–254	Morghen's Outlines of the Human Figure, reproduced by Herman, 1 set, 20 plates, mounted back and front	0	15	0
235–254	The same, unmounted	0	3	4
255–258	One set of 4 plates, Outlines of Tarsia, from Gruner, mounted	0	3	6
255–258	The same, unmounted	0	0	7
259–262	Albertolli's Foliage, 1 set of 4 plates, mounted	0	3	6
259–262	The same unmounted	0	0	5
1271	Outline of Trajan Frieze, mounted	0	1	0
1272–1298	Wallis's drawing-book, mounted	0	8	0
1272	The same, unmounted	0	3	6
1701–1708	Outline Drawings of Flowers, 8 sheets, mounted	0	3	6
1701–1708	The same, unmounted	0	0	8
	Jacobsthal's† Grammatik der Ornamente, mounted in 7 sections, each containing 20 plates, each	1	12	0

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*Lists (*a*) and (*b*) includes all the flat examples required for an art class.

† These are intended to be used as models for pencil outlines on a smaller scale than the originals, or to be copied full size in chalk or sepia.

(*b*) COPIES FOR SHADED DRAWING.

	Course of Design, by Ch. Bargue (French), 20 selected sheets, 11 at 2*s*. and 9 at 3*s*., each	2	9	0
	Architectural Studies, by J. B. Tripon, 20 plates	2	0	0
	Foliated scroll from the Vatican, unmounted	0	0	5
	Foliated scroll from the Vatican, mounted	0	1	3
	Autotypes from figures by Michael Angelo in Sistine Chapel, each*	1	10	0
	Autotypes of 12 selected heads by Holbein, in portfolio	0	16	0
285	A small diagram of color, mounted	0	1	6
285	The same, unmounted	0	0	9
	Cotman's Pencil Landscapes (set of 9), mounted	0	15	0
	Cotman's Sepia Drawings (set of 5), mounted	1	0	0
	Allongé's Landscapes in Charcoal (6), at 4*s*. each, or the set	1	4	0
	Diagrams of Colors of the Spectrum, with explanatory letter press, on rollers	0	10	6
	Radde's Color Scale (in case)	1	10	0

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* See lists of Autotype Company, Rathbone Place.

(2) *Collections (a to f) selected as suitable for instruction, &c.*—Continued.

(c) SOLID MODELS, ETC.

Rotation number.	Description of Article.	Retail price.		
		£	s.	d.
318	A stand, with a universal joint, to show the solid models, &c.	1	18	0
319–328	One wire quadrangle, with a circle and cross within it, and one straight wire; one solid cube; one skeleton wire cube: one sphere; one cone; one cylinder; one hexagonal prism	2	2	0
1612	Skeleton cube, in wood	0	3	6
	Eighteen inch skeleton cube, in 6 pieces	0	12	0
332–4	Three objects of *form* in pottery (Minton's)—indian jar, celadon jar, bottle*	0	18	6
335–338, 1541	Five selected vases in majolica ware (Minton's)	2	11	0
351–353	Three selected vases in earthenware (Wedgwood's)	0	18	0
2000–2006	Binns' models for illustrating the elementary principles of orthographic projection, as applied to mechanical drawing, in box	1	10	0
	Briggs' lay figure, male, life size, net	13	0	0
	Briggs' lay figure, female, life size, net	12	0	0
	Davidson's advanced drawing models (10 models)	9	0	0
	Davidson's smaller solid models	2	0	0
	Davidson's apparatus for teaching practical geometry (22 models)	5	0	0
	Dicksee's, J. R., constructive solid drawing models, consisting of 34 models in wood	11	11	0
	Miller's large models for class teaching:			
	Stand	2	10	0
	Table	0	8	0
	20 models	11	15	0
	Miller's national school models: eight models and table stand	5	10	0
	Jolin's model for teaching perspective	5	0	0
	Drawing models in box, consisting of large block figures of the numerals from 1 to 10, with intersecting oval and stand (12 models)	3	10	0

NOTE.—Examples, models, &c., entered as sets, cannot be supplied singly.

(d) BOOKS.

	Benson's Principles of the Science of Color	0	15	0
	Binns' Orthographic Projection:			
	Vol. I	0	9	0
	Vol. II	0	10	6
	Bonomi's Proportions of the Human Figure	0	5	0
	Bradley's Practical Geometry, perspective and projection (2 volumes), each	0	16	0
360	Burchett's Definitions of Geometry	0	0	5
100	Burchett's Perspective	0	7	0
99	Burchett's Practical Geometry	0	5	0
	Burchett's, E. S., Practical Plane Geometry	0	6	6
	Carroll's Practical Geometry for Art Students	0	1	0
	Cassell's Series, "Model Drawing," by Ellis A. Davidson	0	3	0
	Clarke's, Captain George S., R. E., Practical Geometry and Engineering Drawing (text and plates)	0	10	6
	Clarke's Perspective, &c., explained and illustrated	0	3	6
2023	Davidson's Elementary Drawing, 8vo. cloth	0	3	0
	Delamotte, P. H., F. S. A., drawing book for beginners	0	3	6
	Dennis, H. J.:			
	Second Grade Perspective	0	2	6
	Third Grade Perspective	0	15	0
380	Drawing for Young Children	0	3	6
316	Dyce's Drawing Book, Text to	0	0	6
	Flaxman's Artistic Anatomy, net	0	18	0
	Hulme, F. E., F. S. A., Drawing Instruments, and how to use them	0	3	6
	Jacobsthal's Grammatik der Ornamente, 7 parts, each part of 20 plates, unmounted, per part	0	10	6
	Jewitt's Perspective	0	1	6
	Kennedy, John:			
	First Grade Free Hand Drawing Book	0	1	6
	First Grade Practical Geometry	0	0	6
	Manual of the Science of Color	0	2	6
	Marshall's Anatomy for Artists	1	11	6
	Marshall's Human Body—text and plates—reduced from the large diagrams. (*See list (f) below*)	1	1	0
	Meurer's Intarsiaturas, in 6 parts, 10*s.* each	3	0	0
	Moody's Lectures and Lessons on Art	0	4	6
	Mückley's Student's Manual of Artistic Anatomy	0	5	6
	Muster-ornamente, in map	1	5	0
	Napier's Drawing Books of Common Objects (2 parts)	0	1	0
	Nesbitt & Brown's Handbook of Model and Object Drawing	0	2	0
366	Principles of Decorative Art	0	1	0
	Puckett, R. C., PH. D., Sciagraphy, or radial projection of shadows	0	6	0
	Rawle's Practical Plane Geometry	0	1	0
287	Redgrave's Manual and Catechism of Color	0	0	9
	Robson's Modern Domestic Building Construction	1	16	0
	Smith's Practical Geometry	0	1	6
	Stanley on Instruments	0	5	0

(2) *Collections (a to f) selected as suitable for instruction, &c.*—Continued.

(*f*) INSTRUMENTS, DIAGRAMS, ETC.

Rotation number.	Description of Article.	Retail price.		
		£	s.	d.
	Imperial deal frames, glazed, without sunk rings, each	0	10	0
	Davis' case of drawing instruments	0	10	6
3	Compasses, large, with chalk-holder	0	5	0
6-7-8	Slip, two set squares and T-square	0	5	0
	Smith's school squares, in cardboard	0	1	6
16	Parkes' case of instruments, containing 6-inch compasses with pen and pencil leg	0	5	0
1694	Prize instrument case, with 6-inch compasses, pen and pencil leg, 2 small compasses, pen and scale	0	18	0
1676	6-inch compasses with shifting pen and point	0	4	6
	Marshall's Physiological Diagrams: No. 1, the skeleton, front view; No. 2, the muscles, front view; No. 3, the skeleton, back view; No. 4, the muscles, back view, No. 5, the skeleton, side view; No. 6, the muscles, side view; and No. 7, the female skeleton, front view, each	0	12	6
	The same, mounted on rollers and varnished, each	1	1	0
	Petit Stanislas' selected examples of machines, of iron and wood work (French), 60 sheets, at 13*s.* per dozen	3	5	0
969–1030	Engineer and machinists' drawing book, 71 plates, published, mounted back and front on millboard	3	4	0
952–968	The same, sewed in numbers, at 2*s.* per number	1	12	0
	Laxton's Examples of Building Construction, in divisions (first division containing 16 imp. plates)	0	10	0
	Laxton's Examples of Building Construction, in divisions (second division containing 16 imp. plates)	0	10	0
	W. J. Glenny's Diagram of Building Construction	1	1	0
	Bushridge's Drawings of Machine Construction (50):			
	Mounted, at 6*d.* each, or the set	1	15	0
	Unmounted, at 3*d.* each, or the set	0	12	0
	Bushridge's Drawings of Building Construction (36):			
	Mounted, at 6*d.* each, or the set	0	18	0
	Unmounted, at 3*d.* each, or the set	0	9	0

X.—LIST OF CASTS.

[*Art Form No.* 30 *A.*]

APPROVED BY THE SCIENCE AND ART DEPARTMENT AND SUPPLIED BY THE DEPARTMENT'S AGENTS FOR USE IN ELEMENTARY DAY SCHOOLS, ART CLASSES, AND SCHOOLS OF ART.

[Agents for the supply of casts, D. Brucciani & Co., 40 Russell street, Covent Garden, London, W. C.]

Casts of ornament and the figure.

[*⁎* The casts marked with an asterisk are specially recommended.]

	No.	Subject.		Retail price.		
				£	s.	d.
		1. *Recommended for use in elementary day schools.*				
Ornament.	*347	Section of frieze from the Erectheum, Athens	Greek	0	6	0
	*348	Small acanthus scroll	Roman	0	6	6
	344	Rosette from the capitol, Rome		0	4	0
	345	......do		0	4	0
	346	Rosette from the cloisters of Sta. Maria del Popolo, Rome		0	3	0
The figure.	1017	Bust of Diana robing		0	10	6
	456	Bust of the young Augustus		0	6	0
		1. *Recommended for use in art classes.* †				
Ornament.	474	Florentine panel, with swan	Roman	1	5	0
	1631	Nest of scroll of pilaster, from Villa Medici		0	15	0
	*471	Large scroll from Trajan Forum		4	0	0
	490	Small acanthus leaf, temple of Jupiter Stator		0	6	0
	494*a*	Small rosette, from the tomb of the Scipios		0	1	6
	494*b*	......do		0	1	6
	1542*e*	Pilaster from tomb of Louis XII	Renaissance	0	5	0
	1543*e*	......do		0	5	0
	476*a*	......do		0	6	0
	476*b*	......do		0	5	0
	*483	Egg-plant, pomegranate, and bird, Ghiberti Gates		0	15	0
	*475	Pilaster from Florence (cinque-cento), formerly called from "Sta. Maria del Popolo"		1	1	0
	*489	Acanthus leaf, from St. Eustache, Paris		0	4	0
	*478	Pilaster from the Madeleine, Paris (from the bronze by Triquetti, c. 1840	Modern Renaissance	0	12	0
	*478*a*	A section of the above		0	8	0
	487	Finial, from Lincoln	Gothic	0	3	6
	*468	Capital, from Temple Church		0	7	0
	1640	Capital from Stone Church, Kent		0	7	6
The figure.	*1554	Discobulus of Naucydes, Naples		5	0	0
	*455	Torso of Venus, British Museum		0	8	0
	*459	Bronze Hercules, British Museum		0	10	0
	*457	Bust of Diomede, British Museum		0	10	0
	*463	Bust of Clytie, British Museum		0	10	0
	*498	Dancing Girl, with Wreath		0	14	0
	*497*a*	Portion of Panathenaic Frieze, from the Parthenon		0	18	0
	*464*c*	Hand, with scroll (antique)		0	2	0
	464*d*	Hand, with stick (antique)		0	1	6
	464*e*	Hand, female, from nature		0	1	0
	464*f*	Hand, anatomical		0	1	0
	464*g*	Foot of the Laocoon (right)		0	1	6
	*464*i*	Foot of the Venus of Medici (right and left)		0	2	6
	464*k*	Foot, from the antique (male)		0	1	6
	464*l*	Foot, anatomical		0	1	6
	462	Mask, Child of Niobe		0	3	0
	462*a*	Another Child of Niobe		0	3	0

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† In addition to those for elementary day schools.

Casts of ornament and the figure—Continued.

(3) *For schools of art.*†

	No.	Subject.		Retail price. £	s.	d.
Ornament.	492*a*	Enriched moulding (Echinus, from the Erectheum)	Greek	0	5	0
	1634	Lysicrates scroll (Athens)		0	4	0
	495*a*	Stele top, from British Museum		0	4	0
	*472	Large frieze, Trajan Forum	Roman	4	0	0
	1630	Nest of the Florentine scroll, with the swan		0	10	6
	473	Pilaster from the Villa Medici, Rome		3	10	0
	1540	Centre rosette, from Trajan scroll		0	7	6
	491	A Griffin		0	5	0
	492*c*	Leaf moulding, Temple of Mars Ultor		0	5	0
	*1636	Piece of architrave, from St. Denis, Paris	Byzantine	0	10	0
	*1635	Panel, from Bonn		0	4	0
	1637	Iron scroll work, hinge, Notre Dame, Paris		0	12	0
	1638	Another portion		0	7	6
	1643	An Alhambra panel	Saracenic	0	3	6
	1644	do		0	3	6
	*485	Moulding boss, from St. Stephen's, Westminister	Gothic	0	4	0
	*1639	Spandrel, from Stone Church, Kent		1	0	0
	1641	Small carved panel tracery		0	3	0
	1642	do		0	3	6
	481	A portion of the architrave of the Ghiberti Gates, with eagle	Renaissance	0	15	0
	482	Another, with squirrel		0	15	0
	476*c*	Pilaster, from Louis XII's tomb		0	5	0
	476*d*	do		0	5	0
	496	Diamond rosette, Brescia		0	3	0
	1645	Panel from the Martinengo tomb, Brescia, with cinque-cento arabesque and figures		1	10	0
	1647	Pilaster, from Notre Dame, Louis XV		0	10	0
	478*a*	Portion of pilaster, from the Madeleine	Modern renaissance	0	3	0
	478*b*	do		0	3	0
	478*c*	do		0	3	0
	478*d*	do		0	3	0
The figure	*1614	Fighting Gladiator, Louvre		5	0	0
	*1613	Venus de Medici, Florence		4	0	0
	*1615	Bust of Apollo		0	15	0
	*1616	Bust of Venus of Milo, Louvre		0	15	0
	*461	Mask of Moses, by Michael Angelo		0	5	0
	*464	Foot of Farnese Hercules		0	5	0
	*497	Portion of Panathenaic Frieze, from the Parthenon		0	18	0
	1624	Panel, from Ghiberti Gates		2	2	0
	*464*b*	Hand of St. Peter		0	2	6
The figure.	463*a*	Mask of a child, from nature		0	2	6
	463*b*	do		0	2	6
	465	Horse's leg, from nature		0	4	6
	465*a*	do		0	4	6
	*467	Head of a lion, from nature		0	10	0
	*468	Head of a lioness		0	7	0
	469	Head of a goat		0	7	6
	466	Greyhound's leg, from nature		0	2	6
	466*a*	do		0	2	6
	2318	Statue of Jason, by M. Angelo, South Kensington Museum		7	7	0
	2319	Group of Virgin and Child, by M. Angelo		5	5	0
	2320	Relievo of Virgin and Child, by M. Angelo, Royal Academy		2	10	0
	2321	Statuette of River God, M. Angelo		0	15	0
	2322	Statuette, Dawn, from de Medici tomb, by M. Angelo, Florence		1	1	0
	2323	Statuette, Day, from de Medici tomb, by M. Angelo, Florence		1	1	0
	2324	Statuette, Noon, from de Medici tomb, by M. Angelo, Florence		1	1	0
	2325	Statuette, Night, from de Medici tomb, by M. Angelo, Florence		1	1	0
	2326	Bust of Juliano de Medici, from de Medici tomb, by M. Angelo, Florence		0	10	0
	2327	Bust of Lorenzo de Medici, from de Medici tomb, by M. Angelo, Florence		0	15	0
	2328	Mask of Dawn on pedestal, by M. Angelo		0	6	0
	2329	Statue of Mars, Ludovici, from Florence		10	0	0
	2330	Statue, Mercury, Farnese, British Museum		10	0	0
	2331	Statue, Athlete Vaison adjusting Diadem, British Museum		10	0	0
	2332	Statue, Discobolus Myron, British Museum		7	10	0
	2333	Statue, Diadumenos Farnese, British Museum		4	0	0
	2334	Statue, Athlete (small), British Museum		4	0	0
	2335	Statue, Athlete Strongford, British Museum		2	10	0
	2336	Statue, the Athlete Scraping with Strigel		1	1	0
	2337	Bust of Psyche from Naples, fragment		0	15	0
	2338	Bust of Juno, Castellani, British Museum		0	10	0
	2339	Bust of Apollo, Pourtales, British Museum		1	0	0
	2340	Bust of Youth, Capranesi, British Museum		0	10	0
	2341	Bust of Amazon, British Museum		0	10	0
	2342	Bust of Venus, British Museum		0	7	6
	2343	Bust of Augustus, Castellani, British Museum		0	6	0
	2344	Bust of Juno, South Kensington Museum		0	10	0
	2345	Bust of Pope Alexander VIII, South Kensington Museum		1	10	0
	2346	Bust of Henry VII, Torregiano, Westminster Abbey		0	12	0

† In addition to the two former collections.

Casts of ornament and the figure—Continued.

(3) *For schools of art*—Continued.

No.	Subject.	Retail price.		
		£	*s.*	*d.*
2347	Bust of Saint, Donatello	0	10	0
2348	Bust of Shepherd	0	10	0
2349	Bust of Alexander de Medici	0	10	0
2350	Bust of Nymph, Fontainebleau	1	10	0
2351	Bust of Mercury, A. de Vries	0	12	0
2352	Bust of John the Baptist, South Kensington Museum	0	8	6
2353	Bust of St. George, by Donatello	0	12	6
2354	12 panels of boys, from an altar at Florence, by Donatello, 7*s.* 6*d.* each	4	10	0
2355	Bas relief of Winged Victory adjusting her Sandal, from Victory Frieze at Athens.	0	12	0
2356	Relievo of Virgin and Child	1	10	0
2357	6 Panels from Wood, Goujon, at 5*s.* each	1	10	0
2358	Small group from Ghiberti Gate, Adam and Eve (No. 1 panel)	0	10	0
2359	Small group from Ghiberti Gate, Story of Joseph (No. 6 panel)	0	10	0
2360	Small group from Ghiberti Gate, Moses on Mount Sinai (No. 7 panel)	0	10	0
2361	Small group from Ghiberti Gate, Meeting of Solomon and the Queen of Sheba.	0	10	0
2362	4 statuettes in niches, from the Ghiberti Gates, 5*s.* each	1	0	0
2363	Anatomical shoulder	0	15	0
2364	Anatomical shoulder and chest	0	12	0
2365	Anatomical shoulder	0	5	0
2366	Cinerary urn, South Kensington Museum	0	8	6
2367	......do	0	8	6
2368	24 hands, from nature, varying in proportion from 1 month to 60 years of age	1	10	0

Additional casts of fruit from nature, the figure, ornament, &c., not included in the above lists, but useful for instructions.

No.	Subject.		Retail price.		
			£	*s.*	*d.*
492*d*	Enriched moulding, from the upper cornice of pedestal of Trajan's Pillar	Roman	0	5	0
493	A rosette from the capitol		0	4	0
494	A rosette from the antique		0	4	0
486	A moulding boss from St. Stephen's, Westminister	Gothic	0	4	0
	Piece of architrave of Ghiberti Gates:				
484*a*	The pomegranate portion	Renaissance.	0	5	0
484*b*	The egg plant portion		0	5	0
484c	The bird portion		0	5	0
475*a*	Lower portion of Florentine pilaster		0	7	0
475*b*	Middle portion of Florentine pilaster		0	7	0
475*c*	Upper portion of Florentine pilaster		0	7	0
1625	Panel, with cinque-cento-arabesque, from the Martinengo tomb at Brescia		1	10	0
477	Pilaster from the Madeleine Gates		0	12	0
*454	Statue of dancing faun, from Florence		3	10	0
*460	Statuette of Apollo, British Museum		0	12	0
*1626	An anatomical arm		0	3	6
*1627	An anatomical leg		0	3	6
*1628	Cast of leg, from nature		0	5	0
*1629	Cast of an arm, from nature		0	4	0
1198	A group of arbutus and foliage, from nature		0	7	6
1199	A group of the white lily, from nature		0	12	0
*2100	A group of apples (bunch), from nature		0	7	6
*2101	A group of the water lily, from nature		0	7	6
*2102	A group of sunflower and foliage, from nature		0	10	6
2103	A group of wheat, from nature		0	7	6
*2104	A group of lemon and foliage, from nature		0	3	7
*2105	A group of orange and foliage, from nature		0	3	6
2106	A group of the passion flower and foliage, from nature		0	3	6
2107	A group of vine, foliage, and lizard, from marble, from nature		0	7	6
2108	A thistle leaf, front view, from nature		0	5	0
2109	A thistle leaf, back view, from nature		0	5	0
2110	A small group of apples and foliage, from nature		0	3	6
*2111	A small group of blackberries, from nature		0	15	0
*2112	A small group of apples, from nature		0	7	6
2113	A small group of apples, (different), from nature		0	7	6
2114	A small group of pears, from nature		0	7	6
2115	A small group of plums, from nature		0	7	6
*2116	A small group of vine and leaf, from nature		0	7	6
2117	A small group of vine and leaves, (large), from nature		1	1	0
*2118	A bunch of grapes, from nature		0	7	6
2121	Cast of shaddock, from nature		0	1	0

Additional casts of fruit from nature, the figure, ornament, &c.—Continued.

No.	Subject.	Retail price.		
		£	s	d.
2122	Cast of orange, from nature	0	0	6
2123	......do	0	0	6
2124	Cast of melon, from nature	0	1	6
2125	Cast of pomegranate, from nature	0	0	9
2126	......do	0	1	0
2127	......do	0	0	9
2128	Cast of bottle gourd, from nature	0	1	0
2129	Cast of apple, from nature	0	0	6
2130	......do	0	0	6
2131	......do	0	0	6
2132	Cast of pear, from nature	0	1	0
2133	Cast of pear (different), from nature	0	1	0
2134	Cast of pina, from nature	0	1	0
2135	Cast of citron, from nature	0	1	0
2161	Cast of giant gourd, from nature	0	2	0
*2162	Cast of a group of plums, from nature	0	7	6
*2163	Cast of lemon, from nature	0	0	6
2164	Cast of rock gourd, from nature	0	1	0
*2165	Cast of a lily, from nature	0	7	6
2166	Cast of funeral fern of New Zealand, from nature	0	2	0
2167	Cast of vine branch, from nature	0	5	0
2168	Cast of dock leaf, from nature	0	2	0
2169	Cast of dock, from nature	0	2	0
2170	Cast of bean and leaf, from nature	0	2	6
2171	Cast of study of a stork, from wood	0	1	6
2172	......do	0	1	6
2176	Cast of a hand (with compass), from nature	0	2	6
*2177	Cast of hand resting, from nature	0	1	6
2178	Cast of hand drawing, from nature	0	2	0
2179	Cast of open hand, from nature	0	1	6
*2180	Cast of open hand (male), from nature	0	2	0
*2181	... do	0	2	0
*2182	Cast of a group of female hands, from nature	0	3	0
*2183	do	0	7	6
2184	Cast of female hand, on cushion, from nature	0	2	0
2185	Cast of female hand, from nature	0	1	6
2186	Cast of female hand with bracelet, from nature	0	1	6
2187	Cast of male hand, from nature	0	1	6
2188	..... do	0	1	6
2189	Cast of male hand throwing, from nature	0	1	6
2190	Cast of male hand on stone, from nature	0	1	6
2191	Cast of male hand with stick, from nature	0	1	6
2192	Cast of a clenched male hand, from nature	0	1	6
*2193	Cast of hand with scroll, on stand, from nature	0	3	6
2194	Cast of child's hand, from nature	0	1	0
2195	.. do	0	1	0
2196	......do	0	1	0
2197	Cast of child's hand with stick, from nature	0	1	0
2198	Cast of a group of four hands, from nature	0	5	0
2199	Cast of a pair of feet, from nature	0	3	0
2200	Cast of a pair of large ears	0	2	0
2201	Cast of a pair of small ears	0	1	6
*2202	Cast of an anatomical foot	0	2	6
2203	Cast of mask of Juno	0	3	6
2204	Cast of mask of Madonna, by Michael Angelo	0	3	6
2205	Cast of nose and mouth of Æsculapius	0	1	0
2206	Cast of nose and mouth of Caracalla	0	1	0
2207	Cast of nose and mouth of Adonis	0	1	0
2208	Cast of nose and mouth of Antinous	0	0	9
2209	Cast of nose and mouth of Venus d'Arles	0	0	9
2210	Cast of nose and mouth of Lucius Verus	0	0	9
2211	Cast of nose and mouth of Hadrian	0	1	0
2212	Cast of nose and mouth of Juno	0	0	9
2213	Cast of eye and nose of Laocoon	0	0	9
2214	......do	0	0	9
2215	Cast of eye and nose of Bacchante	0	0	9
2216	......do	0	0	9
		0	1	0
2217	Cast of eye and nose of Jupiter			
2218	..... do	0	1	0
2219	Cast of eye and nose of Hadrian	0	1	0
2220	Cast of rosette	0	1	0
*2221	Cast of a piece of foliage, by Sansovino	0	1	6
2222	......do	0	1	6
2223	Cast of Byzantine capital	0	3	6
2224	Cast of a portion of scroll from Trajan Forum	0	2	6
2241	A hand bearing orange, from nature	0	7	6
*2242	A hand bearing apple, from nature	0	2	6
2243	A female hand on slab, from nature	0	2	6
		0	2	0

Additional casts of fruit from nature, the figure, ornament, &c.—Continued.

No.	Subject.	Retail price.		
		£	s.	d.
2244	A pair of female clasped hands, from nature	0	3	6
2245	A pair of female crossed hands, from nature	0	3	6
2246	A female open hand, from nature	0	2	6
2247	A male hand holding painter's brush, from nature	0	3	6
	Section of the face of David, by Michael Angelo:			
*2248	Left eye	0	2	6
*2249	Right eye	0	2	6
*2250	Mouth	0	2	6
2250*a*	Nose	0	2	6
	A set of the five orders of architecture, base and caps:			
2251	Tuscan	1	1	0
2252	Doric	1	1	0
2253	Ionic	1	1	0
2254	Corinthian	1	1	0
2255	Composite	1	1	0
*2256	Metope, No. 6	1	17	6
*2256*a*	Another, No. 7	2	0	0
*2257	Bust of barbarian	0	8	0
*2258	Heroic head	0	7	6
*2259	Bust of Æsculapius (Blacas)	1	0	0
*2260	Lion's paw and head, called Trapezophoron	1	10	0
*2261	A slab, boy, from Elgin frieze	0	7	0
	Nude figures from slabs of Elgin frieze 33, 39, and A 77, each	0	18	0
2262	Statue of Antinous, from the capitol	5	5	0
2263	Bust of Lucius Verus, from Rome	2	2	0
*2264	Bust of Achilles, from Rome	0	15	0
*2265	Bust of Juno, from Rome	0	10	0
*2266	An antique eagle, from Rome	1	10	0
*2267	Statuette of faun, from Naples	0	12	0
2268	Statue of Cupid, by Michael Angelo	3	15	0
*2269	Statuette, machine reduction of slave, by Michael Angelo, 4 feet high	1	1	0
*2270	Statue, anatomical study, from nature, in the position of Dying Gladiator	5	5	0
*2271	Statuette, anatomical (French)	0	7	6
*2272	Horse, anatomical, by Rosa Bonheur	0	7	6
*2273	St. Cecilia (relievo)	0	5	0
*2274	St. John (relievo)	0	5	0
2275	A Madonna and child (relievo)	0	3	0
2276	The Holy Family (relievo)	0	10	6
2276*a*	......do	0	10	6
*2277	A female arm (relievo)	0	5	0
*2278	A female arm with breast	0	7	6
2279	A male arm in action	0	5	0
	An ivy leaf:			
2280	Front view	0	1	6
2281	Back view	0	1	0
*2282	Serpent, back and front	0	3	0
2283	Hollyhock	0	1	0
2284	Passion flower	0	1	0
2285	Convolvulus	0	1	0
2286	Vine	0	1	0
2287	Geranium	0	1	0
2287*a*	do	0	1	0
2288	Chrysanthemum	0	1	0
2289	Raspberry	0	1	0
2290	Plane	0	1	0
*2291	Vine, back view	0	1	0
*2292	Wild radish	0	1	6
*2293	Wild radish, back view	0	1	6
*2294	A bunch of grapes and foliage	0	15	0
*2295	A large castor-oil plant leaf	0	7	6
*2296	A large vine leaf	0	5	0
2297	Two large plane leaves, back and front, each	0	2	0
2298	A large chestnut leaf	0	2	6
*2299	A large scented oak geranium	0	2	6
2300	A Venetian pilaster, No. 1	1	1	0
2300*a*	Another (in two pieces), No. 2	1	10	0
2300*b*	Another, No. 3	0	7	0
2300*c*	Another, No. 4	0	7	0
2300*d*	Another, No. 5	0	7	0
2300*e*	Another, No. 6	0	7	0
*2301	A Venetian panel, with griffins, No. 7	0	7	0
*2301*a*	Another, No. 8	0	7	0
2302	Another, with vase, No. 9	0	7	0
2302*a*	Another, with foliage, No. 10	0	7	0
2302*b*	Another, No. 11	0	7	0
2303	A Venetian frieze, No. 12	0	7	0
2304	A Venetian column, No. 13	0	15	0
*2305	A part of an Italian ornamental column	1	10	0
*2306	A piece of arabesque ornament, by Torregiano, from Westminster Abbey	0	10	6
2307	......do	0	10	6

Additional casts of fruit from nature, the figure, ornament, &c.—Continued.

No.	Subject.		Retail price. £	s.	d.
2308	Front of an altar from Westminster Abbey		1	1	0
2309	A portion of frieze, foliage	Gothic.	0	10	0
*2310	A boss		0	4	0
*2311	A piece of tracery from wood		0	5	0
*2311*a*	do		0	5	0
2312	A spandril with patera, from Poets' Corner		0	5	0
2313	A capital		0	5	0
*2314	A large piece of foliage from the Architectural Museum		0	15	0
2314*a*	do		0	7	0
2315	Ten elementary studies of ornament		1	0	0
2316	Vase, from terra-cotta, No. 1		0	3	6
2316*a*	Vase, from terra-cotta, No. 2		0	3	6
2316*b*	Vase, from terra-cotta, No. 3		0	3	6
2316*c*	Vase, from terra-cotta, No. 4		0	3	6
2316*d*	Vase, from terra-cotta, No. 6		0	2	0
2316*e*	Vase, from terra-cotta, No. 10		0	2	0
2316*f*	Vase, from terra-cotta, No. 11		0	2	6
2316*g*	Vase, from terra-cotta, No. 12		0	2	0
2317	The horse's head of Silene, from Parthenon		0	12	0
	Statuette of Farnese Hercules		0	10	6
	Statuette of Venus de Milo		0	10	6
	Group of boy and goose (full size)		4	4	0
	Group of boy and goose (reduced)		0	5	0
	Head of Bacchus, No. 140, in British Museum		0	10	6
	Venus, new head		0	7	6
2375	Statue of the Hermes (Mercury), of Olympia, with infant Dionysos		10	10	0
2376	Bust of the Hermes (Mercury), of Olympia		1	1	0
2377	Statue, Venus de Milo		6	6	0
2378	Statue, Youth suppliant		3	10	0
2379	Statue, Germanicus		6	6	0
2380	Statue, Faun, British Museum		5	5	0
2381	Statue, Diana robing		6	6	0
2382	Statue, Flora		6	6	0
2383	Statue, Venus Ostia, British Museum		1	0	0
2384	Statue, St. George, Donatello		7	0	0
2385	Statue, Theseus, British Museum		4	10	0
2386	Statue, Ilissus		5	0	0
2387	Group, The two other Fates		18	0	0
2388	Statue, Venus Genetrix		6	6	0
2389	Torso, Ilioneus		4	0	0
2390	Torso, of Titan, from Pergamos		2	10	0
2391	Torso, draped (Aphrodite, Cyrene)		0	5	0
2392	Statue, anatomical		6	6	0
2393	Torso, Belvedere		4	0	0
2394	Two 3 ft. statuettes, machine reductions of Juliano de Medici and Lorenzo de Medici, £2 12*s.* 6*d.*		5	5	0
2395	Statuette, anatomical		1	11	6
2396	Statuette, anatomical, different		0	12	6
2397	Bust of Niobe		2	2	0
2398	Bust of Niobe's daughter		0	10	6
2399	Bust of Niobe's daughter different		0	10	6
2400	Bust of Antinous in the character of Bacchus		0	18	0
2401	Bust of Julius Cæsar		0	6	0
2402	Bust of Augustus Cæsar		0	10	0
2403	Bust of Mercury		0	12	6
2404	Bust of Antoninus Pius		1	1	0
2405	Bust of Marcus Aurelius		0	15	0
2406	Bust of Ajax		1	5	0
2407	Bas relief of Bacchus and attendants visiting Icarius		2	2	0
2408	Bas relief, Bacchanalian group		1	2	0
2409	Bas relief of Bacchus Chimærophonos		0	3	6
2410	Bas relief, Castor with horse and dog		0	10	0
2411	Mask of Clytie		0	3	6
2412	Mask of Apollo		0	3	6
2413	Mask of St. Jerome		0	3	6
2414	Mask of Hermes		0	3	6
2415	Mask of Diomede		0	3	6
2416	Mask of Venus de Milo		0	3	6
2417	Mask of Diana		0	3	6
2418	Head of a goat		0	7	6
2419	Head of a ram		0	15	0
2420	Head of a dog		0	12	6
2421	Head of a bull		0	15	0
2422	Head of a horse		0	12	6
2423	Head of a dog		0	5	0
2424	Bull, by Rosa Bonheur		0	10	6
2425	Bull, by Gerard		0	12	6
2426	Dog, setter		0	5	0
2427	Dog, pointer		0	5	0
2428	Horse		0	7	6

Additional casts of fruit from nature, the figure, ornament, &c.—Continued.

No.	Subject.	Retail price.		
		£	*s.*	*d.*
2429	Cow	0	7	6
2430	Large plane leaf	0	3	6
2431	2 foxglove leaves, back and front, at 2*s.* 6*d*	0	6	0
2432	2 rhubarb leaves, back and front, at 5*s*	0	10	0
2433	2 lime leaves, back and front, at 2*s.* 6*d*	0	5	0
2434	2 meadow sweet leaves, back and front, at 2*s.* 6*d*	0	5	0
2435	2 seringa leaves, back and front, at 2*s.* 6*d*	0	5	0
2436	2 primrose leaves, back and front, at 1*s.* 6*d*	0	3	0
2437	1 primrose leaf, different	0	1	6
2438	1 hop leaf	0	2	6
2439	1 hazel leaf	0	3	6
2440	1 hazel leaf, different	0	2	6
2441	2 apple leaves, at 2*s.* 6*d.*	0	5	0
2442	1 currant leaf	0	1	0
2443	1 geranium leaf	0	1	0
2444	1 pelargonium leaf	0	1	0
2445	2 balm of gillow, at 1*s.* 6*d.*	0	3	0
2446	1 dock leaf	0	2	6
2447	1 oak leaf	0	2	6
2448	1 chestnut leaf	0	2	6
2449	1 mallow leaf	0	2	6
2450	1 group of 1 apple and leaves	0	10	6
2451	1 group of 2 apples and leaves	0	7	6
2452	1 group of 5 apples and leaves	0	7	6
2453	1 group of filbert nuts	0	7	6
2454	1 group of hazel nuts	0	7	6
2455	1 group of plums	0	7	6
2456	1 group of strawberries	0	7	6
2457	1 group of cherries	0	7	6
2458	1 group of peaches	0	7	6
2459	1 group of laurels	0	7	6
2460	1 group of acorns	0	3	6
2461	1 begonia leaf	0	3	6
2462	2 Virginia creepers, at 3*s*	0	6	0
2463	1 group of 3 pears and leaves	0	12	6
2464	1 group of 2 pears and leaves	0	10	6
2465	1 group of 2 pears and leaves, different	0	7	6
2466	1 group of 3 apples	0	12	6
2467	1 group of 2 apples	0	12	6
2468	1 group of apple leaves	0	5	0
2469	1 group of holly	0	3	6
2470	1 pumpkin	0	4	0
2471	1 pumpkin	0	3	0
2472	2 rape leaves, back and front, at 2*s.* 6*d*	0	5	0
2473	1 white lily flower, front	0	1	6
2474	1 white lily flower, back	0	1	0
2475	2 convolvulus flowers, back and front, at 1*s*	0	2	0
2476	2 convolvulus leaves, at 1*s*	0	2	0
2477	1 ivy leaf	0	1	0
2478	1 branch of rose leaves	0	1	6
2479	1 group of hops	0	5	0
2480	4 caps of Louis XII, pilaster, at 2*s*	0	8	0
2481	1 portion of a column with leaves	0	7	6
2482	9 pieces of ornament, German	1	0	0
2483	1 set of elementary studies of ornament	1	0	0
2484	6 rosettes German	0	18	0
2485	2 feet of faun, at 2*s.* 6*d*	0	5	0
2486	1 foot of Laocoon	0	2	6
2487	2 feet of Fighting Gladiator	0	5	0

List of new casts approved by the Science and Art Department, and supplied by Sig. F. Meacci, 53 *Cale street, Chelsea, S. W.*

No.	Subject.	Retail price.	
		s.	*d.*
	Foot, from nature	1	6
74–'47	Bowl, Hildesheim treasure	7	6
1879–'2	Fragment, leaf from Coving	2	0
1879–139	Portion of acanthus	7	6
497	Panel	3	0
1879–142	Large rosette	7	6
1664–50	Panel	2	6
758	Frieze	3	6
483	Frieze, Château de Gaillon	10	0
701 *red*	Pilaster, Collection des Beaux Arts	7	0
153	Key pattern freize	3	6
156	Honeysuckle, Parthenon	6	0
172	do	1	6
173	do	1	6
250	Freize, Forum Trajan	10	0
258	Part of acanthus leaf	2	6
283	Rosette in square	2	0
724	Panel, Louvre carved oak	6	0
79	Fragment of stalk with leaves	2	0
82'–163	Bust	10	0
368*f*–78	Capital, North Court, South Kensington Museum	6	0
368*e*–78	do	6	0
368*g*–78	do	6	0
368*h*–78	do	6	0
368*i*–78	do	6	0
370'–78	Honeysuckle rosette or medallion	12	0
268	Frieze, Antinous Faustina (lower part)	14	0
66	Stele, Greece	15	0

XI.—THIRTY-SECOND REPORT

OF THE

SCIENCE AND ART DEPARTMENT

OF

THE COMMITTEE OF COUNCIL ON EDUCATION.

As this Report is passing through the press the thirty-second annual report of the Science and Art Department (for 1884) comes to hand,* from which only brief extracts can be given.

With the issuing of the "Calendar and General Directory" as a "supplement" to the Thirty-first Report, the form of the report was somewhat changed; the size of page and width of margin being a little enlarged. The present report indicates the continual growth of activity in efforts to promote education in art in all directions.

The thirtieth report was arranged under seven heads, besides a "summary," the thirty-second has nine; the additional ones being "Congresses, Conferences, and Exhibitions," and "Lace making in Ireland.'

I.—SCIENCE DIVISION.

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II.—ART DIVISION.

AID GIVEN TOWARDS THE PROMOTION OF INSTRUCTION IN ART.

(*a*) ELEMENTARY ART INSTRUCTION.

20. *Elementary day schools.*—In the year ending August 31, 1884, 778,830 children and pupil teachers were taught drawing, and 500,007 children and 8,363 pupil teachers were examined at the annual examination in 4,506 elementary schools. These numbers, compared with those of 1882–'83, present an increase of 11,636 children and pupil teachers taught, and a decrease of 20 schools and 1,690 children and 1,236 pupil teachers examined. The total amount of the grants on results in these schools in 1883–'84 was £33,129, showing an increase of £4,795 on the amount granted in 1882–'83.

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* Thirty-second report of the Science and Art Department of the Committee of Council on Education, with appendices. Presented to both Houses of Parliament by command of Her Majesty. London: Printed by Eyre and Spottiswoode, 1885, pp. xxvi—342. Price 8*s*. 6*d*.

TRAINING COLLEGES FOR ELEMENTARY SCHOOL-TEACHERS.

23. At the examination of 50 training colleges in November, 3,471 students in training, and 906 teachers and pupil teachers of elementary schools were examined, and 857 of these candidates obtained full certificates for second grade drawing. The total amount granted to the colleges on the results of the examinations was £1,850 as against £1,246 in 1883. This increase of £604 is principally due to payments having been made for the first time on the results of the examinations of last November in drawing on the blackboard.

ART AND SCIENCE CLASSES.

24. The number of art classes examined in 1884 was 490, and the number of students in these classes was 23,745; the corresponding numbers in 1883 having been 499 classes and 26,424 students. The number of works sent up from these classes in April, 1884, was 189,092, by 14,147 students; and 91,138 drawings of buildings and machines were also received for examination from 329 science classes. The second grade examinations in drawing were attended by 12,313 students of art classes, of whom 3,505 were successful and 821 obtained prizes, while 222 students in art classes and 256 students in science classes took prizes for works sent up for inspection. The total amount of the grants to art and science classes on the results of the art examinations was £7,712, the corresponding total of 1882–'83 having been £7,133.

UNAIDED SCHOOLS AND PRIVATE STUDENTS.

25. Examinations in elementary drawing, for prizes and certificates only, were held in 170 schools unaided by payments from the Department. One thousand three hundred and fifty-three pupils of these schools were examined in first-grade drawing, and 2,907 in second grade. Besides these, 6,567 candidates not belonging to any school or class connected with the Department were examined in second grade drawing. Of the total number of 10,827 candidates, on account of whose examination no payments have been made, 3,695 were successful, and 748 obtained prizes at a cost of £318.

(*b*) ADVANCED ART INSTRUCTION.

SCHOOLS OF ART.

26. Fifteen new schools of art and two new branch schools were established during the year 1883–'84, and the total number of schools of art throughout the kingdom in which instruction was given in advanced and elementary art was 188, with 14 branch classes. The total number of students in these schools and branch classes was 37,033, as against 177 schools, 15 branch classes, and 35,909 students in 1882–'83, being an increase of 1,124 in the number of students.

WORKS SENT UP FOR EXAMINATION.

27. At the annual examination in April, 1884, 23,731 students submitted 254,610 drawings or models. The corresponding numbers in 1883 were 22,200 students and 226,415 works, showing an increase in 1884 of 1,531 students and 28,195 works sent up. In this examination 21,042 students, on account of whose instruction payments were made to the committees of the schools, were of the industrial classes.

NATIONAL COMPETITION.

28. The number of works selected for the national competition was 1,410, composed of drawings from the antique, designs, and studies in light and shade or color; being 484 more than in 1883.

ART EXAMINATIONS.

29. The annual examinations in second grade drawing were attended by 13,372 students of schools of art, of whom 6,235 were successful and 1,924 obtained prizes, showing increases of 640, 163, and 184 respectively. At the local examinations in advanced art 754 papers were worked, of which 303 were successful, 58 obtaining prizes.

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FEES PAID BY STUDENTS IN SCHOOLS OF ART.

30. The amount of the fees paid by students in schools of art and of the grants on results paid by the Department in the last three years were respectively as follows:

	1882.	1883.	1884.
Fees	£39,198	£38,594	£42,658
Payments	16,978	19,243	21,528

The reports of the examiners will be found in Appendix B, page 26.

NATIONAL ART TRAINING SCHOOL.

31. In the session of 1883–'84 there were 36 students in training to become art teachers and 21 national scholars in training to become designers or art workmen. These 57 students, most of whom were selected from provincial schools, received allowances to enable them to study in the training school and musuem at South Kensington. The number of students admitted on payment of half fees was 44, and 125 others, including the students in training the national scholars, and 19 men of the corps of royal engineers, received gratuitous instruction.

At the third-grade examinations in art held in 1884, 31 certificates were obtained by students of the school qualifying them to earn payments from the Department as teachers in schools of art. In the national competition 3 gold, 20silver, 23 bronze medals, and 82 prizes of books were awarded to students of the school, and 97 third-grade prizes for works sent in for examination.

The total number of students was 721, of whom 324 were males and 397 females, being an increase of 11 on the number in the previous year, and the fees received amounted to £2,802 12*s.* 6*d.*, the day students paying £2,539 8*s.* 6*d.* and the evening students £263 4*s.*, being a decrease of £185 2*s.* 3*d.* on the amount received in the previous year 1882–'83.

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TOTAL NUMBER OF PERSONS INSTRUCTED.

34. The grand totals of persons taught drawing, painting, or modelling through the agency of the Department have been as follows during the last three years: 1882, 909,216; 1883, 843,135; 1884, 851,805.

COMPARATIVE STATISTICS SHOWING RAPID DEVELOPMENT.

In a former report, the twenty-first (1874), the total number of persons taught drawing in 1855 was given as 29,498; 18,988 of these were in elementary schools. In 1860 the total was 89,481; of these 74,267 were in elementary schools; in 1870, totals, 187,916; 147,243 in elementary schools. In 1873 totals, 290,176; of these there were in elementary schools 237,733.

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Four sheets of "graphic curves" are given; these, as well as the views and plans of the American museums, in Appendix M, are a new feature in these reports.

CURVES ILLUSTRATING AID TO SCIENCE AND ART INSTRUCTION.

36. The graphic curves which accompany this report have been prepared to show the annual rate of increase during the last twenty years of the number of students under instruction in Science and Art, with the corresponding increase of expenditure. In the expenditure are included payments on results, prizes, building grants, and grants towards fittings and apparatus.

The first diagram gives the total grants and total number of students, while the succeeding diagrams give the number of students and the amount of the grants in schools of science, in schools of art, and art classes, and in elementary schools.

It will be apparent from these curves that the rate of increase of the expenditure has not been as great as the rate of increase of numbers of persons under instruction, and, secondly, that whenever the gradual rise of standard in examinations has been at all rapid, and the payment per student under instruction thereby much reduced, the rate of increase has diminished, and even, in one or two instances, been stopped altogether, showing that the present rate of aid is not more than is necessary, and could not be materially reduced without at once most seriously crippling, if not destroying the means of Science and Art instruction of the industrial classes in the country.

The first sheet of "graphic curves" shows, exclusive of pupils in elementary schools, 22,754 students in science and art in 1864; 102,514 in 1874, and 140,695 in 1883. There was a continuous though not uniform increment each year; 1874 was the first year in which the number of students reached 100,000. The grants began with £12,729 in 1864, reached £64,416 in 1874, and £88,227 in 1883.

The second sheet of "graphic curves," shows 4,666 students under instruction in "science" in 1864; 53,050 in 1874; 74,886 in 1883. Grants in 1864, £3,560; in 1874, £38,106; in 1883, £57,041.

The third sheet of "graphic curves" gives similar statistics for the schools of art, art classes and training colleges. In 1864, number of students, 18,000; in 1874, 49,000; in 1883, 65,000. Grants in 1864, £9,000; in 1874, £24,000; in 1883, £33,000.

The fourth sheet of "graphic curves" gives the statistics of the elementary schools. In 1864 there were about 95,000 pupils; in 1874, 230,000; in 1883, 845,000. Grants in 1864, £1,000; in 1874, £17,000; in 1883, £31,000.

The opening of the new gallery of antique casts, August 7, 1884, in the South Kensington Museum is recorded; also the acquisition of valuable objects from the sale of the Castellani collection in Rome, for the South Kensington, Dublin, and Edinburgh Museums; also the proposed gift by Lady Schreiber of an historical collection of English pottery, enamels, etc., comprising some 1,200 examples of the work of all the more important factories. The widow of George Cruikshank has given a valuable collection of that artist's works to the National Art Library.

Satisfactory progress is reported in the introduction of the electric light in some of the galleries of the Museum, in the Art Schools, the Reading-rooms of the Library, and in the Bethnal Green Branch Museum.

ART REFEREES.

The formation of a general "Committee of Advice," composed of the gentlemen announced as the "Committee of Art Referees" in the calendar of 1885 (for list of names see page 737 of this Report), with one additional member, viz, Sir A. Henry Layard, G. C. B., D. C. L., is announced. The authorities do not, however, intend to preclude themselves from employing special experts as referees as occasion may arise.

Additions are reported to the India Museum and to the picture galleries, while the circulation of art objects, by loan to the provincial museums, exhibitions, schools of art, etc., has "been actively carried on." Twenty-three museums have been thus aided; five of these occupy new buildings opened during the year 1884.

The receipt by the Bethnal Green Branch Museum of many valuable art loans during the year is recorded.

LIST OF MUSEUMS SUPPORTED BY THE STATE.

As indicating the scope of the Science and Art Department, the following list is inserted of the "museums in connection with the Science and Art Department, supported by the State."

The Museum of Practical Geology (Jermyn street, London) visited by 43,466 persons during the year.

The Edinburgh Museum of Science and Art. Important additions by purchase are reported from the Castellani collection, and from that of M. G. de St. Maurice, with valuable donations.

All who know anything of the effective work of the late Professor Archer, director of this museum, in the promotion of industrial art education, will sympathize in the regrets expressed, in recording the "sudden death, while in London on official business, on the 19th February last, of Professor Archer, the director of the Edinburgh Museum." A well-deserved tribute is paid in the following brief words:

"To his able administration was mainly due the creation of the museum on its present footing, and under his direction, since 1860, this institution has attained to its present great popularity and importance."

The Science and Art Museum, Dublin.

The opening of this museum free of charge to the public on Sunday afternoons is recorded as commencing the 19th of October, 1884, "and with most satisfactory results."

61. "The report of the Director of the Science and Art Museum, Dublin (see Appendix H, page 276), includes, as appendices, reports by the officers in charge of the Natural History and Art Museums, the Royal Botanic Gardens at Glasnevin, and the Metropolitan School of Art.

Two hundred and twenty thousand nine hundred and fourteen persons visited this museum in 1884, and 326,934 the Royal Botanic Gardens, Glasnevin.

"The Royal College of Science, Dublin."

PROVINCIAL MUSEUMS.

66. Out of the vote of £1,500 for aid to museums in connection with the department, or established under the public libraries act, the following museums have received grants amounting in the aggregate to £984 3*s.* 1*d.*, towards the purchase of electrotype reproductions, fictile ivories, plaster casts, photographs, textile fabrics, and original art objects: Bolton-Chadwick Museum, Bradford Public Art Museum, Cork School of Art Museum, Manchester Art Gallery, Manchester Queen's Park Museum, Nottingham Castle Museum.

"The Geological Survey of the United Kingdom" is also under this Department; State aid is also afforded, through the Science and Art Department, to the "Solar Physics Committee," and to the Royal Hibernian Academy of Arts.

ROYAL HIBERNIAN ACADEMY OF ARTS.

72. The annual exhibition of works was held from March to June. There were 764 season tickets issued as against 582 in the previous year. The day admissions, at 1*s.*, were 6,501 as against 4,940, and the evening admissions, at 1*d.*, were 20,937 as compared with 20,984 in the year 1883.

VIII.—LIST OF CONGRESSES AND EXHIBITIONS.

The Department was represented at eight congresses and exhibitions during the year, namely: "International Prime Meridian Conference at Washington," "Paris Electrical Units Conference," "St. Petersburgh Botanical Congress and International Horticultural Exhibition," "International Health and Education Exhibition, London;" "Medical Congresses at Copenhagen and the Hague," "New Orleans Exhibition, United States of America;" "Antwerp International Exhibition, 1885."

LACE-MAKING IN IRELAND.

The continuance of efforts, begun in 1873, to develop and improve lace-making in Ireland, are recorded; Mr. Alan Cole visiting, on request, a number of convents and lace-making schools. In the lack of local effort, and the absence of any such supervision as exists in France and Belgium, the out-look for the successful development of this industry is not regarded as very encouraging.

ANNUAL EXPENDITURE.

The report proper by the Lords of the Committee of the Privy Council ends with the following statement of total expenditures for 1884:

> 82. The expenditure of the Department during the financial year 1884-'85 amounted to £371,611 12*s.* 10*d.*
>
> All which is humbly submitted to your Majesty.
>
> Signed at South Kensington this 20th day of March, 1885.
>
> CARLINGFORD.
> A. J. MUNDELLA.
>
> [L. S.] (Signed) J. F. DONNELLY.

The following statements and extracts are from the reports of the several officials, contained in the various appendices to the thirty-second report:

An important change in the methods of affording aid to the study of drawing in the elementary schools is foreshadowed, in the following paragraph of the "report of the assistant director for art (Mr. H. A. Bowler) on schools of art and art examinations:"

> * * * The system of examination by local superintendents instead of by the managers has been extended, so that 3,340 schools are now examined by them, and it is hoped that in a short time the whole number of schools may be brought under this more satisfactory method. This will much facilitate the introduction of drawing into the Code of the Education Department as a class-subject, which has now been decided upon. It is proposed that no payments shall be made after 31st of March, 1886, on the system hitherto in force, which allowed payments as follows: (*a*) 1*s.* for every exercise of the first grade marked "fair;" (*b*) 1*s.* 6*d.* for every exercise of the first grade marked "good;" (*c*) 2*s.* 6*d.* for every exercise of the first grade marked "excellent;" (*d*) 5*s.* for every exercise of the second grade in which the child passes; but the subject after the date above given will be taught under the conditions of class-subjects under the Code, which will have the effect of removing one of the chief causes of unsatisfactory results; namely, the intermittent character of the instruction, often hitherto interrupted in favor of other subjects; other hindrances are the want of suitable materials and instruments in the poorer schools. It is to be hoped that in the desire to urge technical methods of drawing by the aid of instruments the simple training of the eye and hand by free-hand drawing may not be too much depreciated. (See page 21.)

It would appear from this that something very similar to the Massachusetts plan of making the study of drawing one of the regular studies in all public schools, adopted when Prof. Walter Smith was State Art Director, was about to be introduced in the elementary schools of Great Britain.

The following is the brief report with which the Director of the South Kensington Museum introduces the reports of the assistant directors and other officials:

APPENDIX D.

REPORT OF THE SOUTH KENSINGTON MUSEUM AND THE BRANCH MUSEUM AT BETHNAL GREEN, BY SIR PHILIP CUNLIFFE OWEN, K. C. M. G., C. B., C. I. E., DIRECTOR.

The progress made in these museums during the year 1884 is related in the reports of the assistant directors and keepers which follow. The transfer of the patent museum collections to the Department, the opening of the gallery of casts from the antique, the removal of the Art Library to the new rooms specially erected for it, and of the Science and Education Library to the new western court, and the re-arrangement of the Indian collections, are the chief events of the year, and are all of sufficient importance to mark it as a notable year in the history of the Museum, while the progress of art circulation to provincial schools of art and museums, as recorded in Mr. Cundall's report, has kept pace with the advance of the central Museum; nine new institutions having been added to those to which loans are sent. Throughout the Museum the need of additional space becomes yearly a more serious matter. In providing for the proper display of the valuable gifts and bequests to the nation received of late years, it has been necessary to disturb the systematic classification of some sections of the other contents of the Art Museum, thus impairing their value to students. In the Science Collections the want of space is even more keenly felt. Past experience shows, both at South Kensington and in the various provincial museums aided by the central institution, that where adequate space exists for their proper exhibition, gifts and bequests of great value are sure to flow in. On every account it is to be regretted that the completion of the buildings designed for the museum at South Kensington should so long be delayed.

It will be observed from this that the United States Congressional Library is not the only governmental institution in the world which is suffering for want of room; growth being a universal characteristic of all valuable collections.

In the summary given by Mr. Richard A. Thompson, the assistant director for arrangement, is the following suggestive notice of the practical results of this training of students in a knowledge of industrial art; the relation of this art training to the arts and industries of a people, and its importance to the nation is thereby emphatically illustrated:

An exhibition of the works and manufactured articles made from the designs of students in or from the various schools of art throughout the United Kingdom was formed in the International Health and Educational Exhibition at South Kensington. A similar exhibition was held in the Great Industrial Exhibition of 1862, and the present collection was got together with a view of illustrating the progress made in art manufactures through the instrumentality of the schools of art since that period. The collection consisted of 1,782 examples, being the work of 734 students, formerly or at present in the schools. One hundred and seventy-six manufacturers kindly lent finished works produced from designs by the students.

The commissioners of the Health and Education Exhibition having decided that the contributions to this special exhibition should be eligible for examination by the jury, 115 awards were made, viz, to students, 3 gold medals, 28 silver medals, and 72 bronze medals; total to students, 103 medals. To schools of art, 2 gold medals, 5 silver medals, and 1 diploma of honor; total awards to schools, 8. To manufacturing firms who had systematically employed students of the schools, 3 gold medals.

A catalogue of the collection was prepared by Mr. George Wallis and a handbook by Mr. J. L. Sparkes, head master of the training schools at South Kensington. A selection of the works to the value of £500 has been purchased for the Museum. (See page 192.)

THE ANNUAL INCREASE OF THE ART COLLECTIONS.

Mr. George Wallis, the keeper of the Art Collections, reports as follows:

ACQUISITIONS.

The number of objects acquired by purchase, gift, or bequest, in 1884, was 1,202, as compared with 1,295 in 1883, viz: General art collections, 1,123; Indian section, 52; and school examples, 27; as against general art collections, 1,285; Indian section, 8; and school examples, 2, in 1883.

The principal acquisitions by purchase during the year are:

A carved stone bas-relief of St. George, Venetian, about 1480, £152 16*s.* 2*d.* No. 53.

A Persian carpet of the eighteenth century, £380. No. 127.

An addition to the Persian collections of various objects, £453 16*s.* 3*d.* Nos. 142 to 418.

A vase of cloisonné enamel, old Chinese, £160. No. 441.

A massive gold armlet found on the banks of the Oxus. Græco-Bactrian, third or second century B. C., £1,000. No. 442.

An addition to the Italian collections of various objects, £542 5*s.* 4*d.* Nos. 453 to 605.

Objects purchased at the sale of the Castellani collection at Rome, £8,510 13*s.* 5*d.* Nos. 610 to 728.

A painting in gouache (distemper) representing a group of distinguished persons in the grounds of a palace, eighteenth century, £367 10*s.* No. 829.

Italian carvings and paintings in wood and marble, fifteenth and sixteenth century, £476 13*s.* 3*d.* Nos. 845 to 850.

A collection of objects of old Arabic art, £1,554 7*s.* Nos. 880 to 1048.

Water-color drawings by Girtin and contemporary artists, £116 4*s.* Nos. 1085 to 1100.

The principal acquisitions by gift during the year are:

A curious toll-board in the Maori language of New Zealand, from Commissary-General Hamley, C. B. No. 75.

Photographs of lace, from Her Majesty the Queen. Nos. 76 to 78.

Marble busts of Cromwell and Garibaldi, by Matthew Noble, from Charles Seely, Esq., M. P. Nos. 448 to 449.

A terra-cotta head of our Lord, Italian, sixteenth century, from J. Samuel, Esq. No. 452.

A collection of old Norwegian textiles, from the directors of the Museum of Art Industry, Christiania. Nos. 786 to 825.

A royal feather cloak from the Sandwich Islands, from the late W. Terry, Esq. No. 828.

Three water-color drawings by W. Payne, from Mrs. Caroline Winter. Nos. 1051 to 1053.

A model of a statue of Oliver Cromwell, heroic size, from John Bell, Esq. No. 1121.

Two carved wood doorways from Mark Lane, from Perry Standish, Esq. Nos. 1122, 1123.

REPRODUCTIONS.

The reproductions acquired during the year amounted to 611 electrotypes and 670 plaster casts.

ELECTROTYPES.

The electrotypes include nearly 300 specimens of gold and silver plate selected from the Imperial palaces, ecclesiastical and other public and private collections in Russia. Amongst them are 40 examples of Greek and Græco-Scythian art from the Kertch collection of the Hermitage; a silver-gilt and jewelled dagger and sheath, attributed to Benvenuto Cellini, elaborately chased and ornamented with subjects from the Iliad in high relief; many specimens of early Russian, Italian, French, and English goldsmiths' work of the fifteenth and sixteenth centuries; antique Roman and early Italian bronzes, and several examples of Russian and Italian ancient arms and armor.

CASTS OF ANCIENT SCULPTURE.

The plaster casts acquired include the completion of the collection of 420 statutes and reliefs illustrative of the history and development of Greek and Roman sculpture. Of these the Venus of Cnidos, of the Vatican; the Hermes, of the collection of the Earl of Wilton; the Hermes seated, in the Naples Museum; the Venus of Capua and the head of Niobe, in the Earl of Tarborough's collection, have been specially moulded for the Department. Several, such as the frieze of the Heroon at Gjölbaschi, in Lycia; the Athene group, and the Zeus group from the Pergamon altar; the seated portrait statutes of Menander and of Poseidippos; the Spinario; the Corritrice; the statue of a woman from Herculaneum; the Attalos figures of Gauls and Persians; the Orestes and Electra; the statue of the Emperor Augustus, and some reliefs and sepulchral stele, have not been exhibited previously in this country.

RENAISSANCE SCULPTURE.

Among the renaissance casts acquired have been copies of Donatello's bronze panels, representing the Miracles of Saint Anthony, and the dead Christ with Angels, in the Church of Saint Antonio, Padua; a copy of the Pulpit, by Benedetto La Mariano, in

Santa Croce, Florence; medallion figures of infants, by Andrea della Robbia, in the Church of the Innocenti, Florence; a relief of the Madonna and child, by Jacopo della Quercia; the recumbent figure and several of the bas-reliefs for the tomb of Gaston de Foix, by Augustino Busti; the marble panels by Antonio Amadio, of the shrine of the Egyptian Martyrs, from the Church of San Lorenzo, Cremona; and the bas-relief of the Battle of Brescia, from the tomb of Visconti in the Certosa, Pavia. A large addition also has been made to the casts specially suitable for use in Schools of Art in the presentation by the Union Centrale des Arts Decoratifs of upwards of 260 examples of carved architectural ornament by Jean Goujon, P. Ponce, Philibert Delorme, and other masters of French art of the sixteenth century.

Other details respecting this division of the museum are given in the tables, &c., pages 210–221.

(4) *Abstracts of objects required by purchase under votes F.* 2 *and* 7, *or by gift, during the year ending* 31*st December,* 1884.

* * * * * * *

(5) *Summary of classes January to December,* 1884.[*]

Class.	Subject.	Given.	Bought.	Cost.		
				£	*s.*	*d.*
I.	Sculpture in marble, stone, &c	5	43	1,047	6	2
II.	Mosaics in stone and glass		4	275	5	5
III.	Carvings in ivory, bone, tortoise-shell, &c		10	253	16	0
IV.	Furniture, wood-work, &c	5	48	1,393	5	9
V.	Metal work	1	50	351	6	6
VI.	Coins and medals	10				
VII.	Arms and armor		21	64	12	4
VIII.	Silversmiths' work		14	1,343	1	0
IX.	Jewelry, goldsmiths' work, &c		59	2,113	9	0
X.	Enamels on metal		23	1,598	13	0
XI.	Pottery and porcelain	2	272	2,482	2	0
XII.	Glass vessels and other objects		46	1,732	5	0
XIII.	Painted and stained glass					
XIV.	Leather-work and bookbinding	3	2	21	0	0
XV.	Textiles and embroidery	43	342	2,247	13	0
XVI.	Lace	1	32	134	15	10
XVII.	Musical instruments		7	100	4	6
XVIII.	Paintings in oil, water-color, &c	9	71	1,355	7	7
	Total	79	1,044	16,514	5	1

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[*] Thirty-second Report, Appendix D, p. 218.

ART CIRCULATION.

Mr. Herbert M. Cundall, assistant keeper in charge of art circulation, reports as follows:

There has been a considerable increase, as was anticipated in the previous report, in the number of provincial museums in connection with schools of art or corporations under the public libraries act, which have applied to the Department for the loan of art collections. The number of these museums is now 23, being an increase of 9 on the previous year. The following are the additional museums to which loans have been sent: Blackburn, Free Library and Museum; Bolton, Chadwick Museum; Leeds, Free Library and Museum; Leek, Nicholson Institute; Leicester, Town Museum; Manchester, Queen's Park Art Gallery and Museum; Reading, Free Library and Museum; Stockport, Vernon Park Museum; Wolverhampton, Museum.

It is evident that the desire to promote the art education of the people by instituting museums similar in scope to the South Kensington Museum is being rapidly stimulated in provincial towns, especially as five of the above museums are new buildings and were opened during the year. (See pages 194, 195.)

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Mr. C. Purdon Clarke, C. I. E., the keeper of the Indian collection, reports a number of additions by gift and purchase, also by loan, and the withdrawal of His Royal Highness the Prince of Wales's collection of 1,851 objects.

THE NATIONAL ART LIBRARY, 1884.

Mr. R. H. Soden Smith, M. A., F. S. A., the keeper of the National Art Library, announces the opening of new and commodious reading rooms.

5. The number of volumes and pamphlets acquired has been 1,820 purchased, 391 presented. * * *

Mr. Smith describes at length several of the more important of the additions. Among these, a rare book of Venetian lace patterns printed at Frankfort-on-the-Main, by Matthes Beckers, 1601; 66 volumes of Japanese illustrated books; 20 volumes of Chinese books relating to bronzes, etc., etc.

9. The number of original drawings and designs added has been 1,808. Among those presented may be specified nearly 1,000 original sketches, designs, and water-color drawings, by George Cruikshank, for some of his most popular etched or engraved productions; these are included in the large collection of his works, the gift of Mrs. George Cruikshank, of which more particular mention is made below.

* * * * * * *

10. The number of engravings, etchings, and woodcuts added to the collection has been 2,778 presented, 3,791 purchased. Among those presented must be specially mentioned the large gift which is due to the liberality of Mrs. George Cruikshank, of a series of the works of her late husband, almost unrivalled in its extent and completeness, including as it does proof impressions of the artist's chief productions, with his authograph signature upon each. * * * Altogether nearly seventy years of work are illustrated by this remarkable and interesting collection.

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11. The number of photographs acquired has been 1,458. Among these may be noted continuations of the various series of permanent autotypes published by Braun and Company; among them the pictures in the gallery of the Hermitage, St. Petersburg; the Dresden Gallery; pictures of the Ecole des Beaux Arts, Paris, &c.; also a series of Italian sculpture, and others of Indian architecture.

12. Twenty-two hundred and seventy-five diagrams, drawings, prints, and photographs have been lent to provincial and other schools of art for exhibition at institutions in the Provinces, or for use in the lecture theatre.

The total number at present on loan to the Art Museum for exhibition or circulation, or otherwise in use out of the art library, is upwards of 10,500. (See pages 197–200.)

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DEPARTMENT PUBLICATIONS.

Mr. A. C. King reports that the following publications relating to the Museum have been issued under the authority of the Department during the year 1884:

Inventory of art objects acquired during the year 1883.

List of loans to the South Kensington and Bethnal Green Branch Museums during 1883.

List of reproductions acquired in 1883.

Catalogue of casts from the antique in the South Kensington Museum, by Walter Copland Perry.

Catalogue of the National Gallery of British Art at South Kensington. New edition. In two parts: Part I, oil paintings. Part II, water-color paintings.

Lists of works on painting and on heraldry in the Art Library.

These have been published by the stationery office.

Messrs. Chapman and Hall, limited, have issued, under department sanction, the following handbooks:

French Pottery by Paul Gasnault, by E. Garnier.
English Earthenware, by A. H. Church, M. A.
Art in Russia, by Alfred Maskell. (See page 209.)

The Department publishes works each year as above, many of them large and important illustrated works, others in the nature of handbooks and monographs.

The following notes of current art publications for the years 1883 and 1884 show a striking decrease during 1884.

ART PUBLICATIONS ISSUED IN 1883.

I beg to report that I have noted 884 titles of publications relating to Fine Art, or especially useful to Art Students, which have been issued during the year 1883.

They are as follows: 310 publications in English; 292 in German; 223 in French; 28 in Italian; 16 in Swedish and Danish; 8 in Dutch; 7 in Spanish; 781 of these publications have been acquired for the National Art Library, namely, 307 English and 474 foreign works.

J. W. APPELL,
Assistant Keeper.

Mr. Appell reports, as above, as issued in 1884, 555 titles—252 in English; 146 in German; 126 in French; 19 in Italian; 12 in Swedish and Danish; 454 acquired for the National Art Library, namely, 252 English and 202 foreign works. (See thirty-second report, page 232.)

(*d*) MISCELLANEOUS RETURNS.

Under this head five pages (233–237) of full and interesting details, relating to attendance of visitors at the South Kensington and Bethnal Green Branch Museums, are tabulated. (A comparative statement of the yearly attendance of visitors at the South Kensington Museum, from 1857 to 1882 inclusive, will be found on page 738 of the present Report.) The thirty-second report gives a total of 1,093,810 visitors for 1883, and a total of 963,117 visitors for 1884, making the grand total of visitors from the opening of the museum, on the 22d of June 1857, to the end of 1884 to be 23,639,029. There were 447,330 visitors at the Bethnal Green Branch Museum in 1884, making a total of 7,430,490 since the opening of that museum 25 June, 1872.

A comparative statement of receipts at South Kensington Museum, for admission fees, catalogues, lecture tickets, refreshment rooms, etc., is given for each year—£587 6*s.* 9*d.* was received in 1857; £1,687 15*s.* 4*d.* in 1884, and the grand total of receipts from these sources, since the opening of the museum in 1857, is £63,342 10*s.* 8½*d.* Curiously the prices of single and season admission fees are not given. In the table of the receipts at the Bethnal Green Branch Museum the total for 1884 is £41 5*s.* 3*d.*, with attendance of 447,330. The number of visitors for 1881–'84 ranged between 440,000 and 450,000, with 451,187 in 1881, and the receipts in 1881 were £40 16*s.* 10*d.*; in 1882, £44 10*s.* 5*d.*; in 1883, £55 14*s.* 4*d.*, while from June to December of 1872 they amounted to £2,679 10*s.* 5*d.*, with a loss of £1,000 for the entire year of 1873 and of more than a thousand pounds in addition for 1874, being only £444 12*s.* 7*d.* for that year; falling to about £50 in 1879 and to about £33 in 1880.

Although the report is most full and minute in many details, I find nothing to explain this great falling off in the receipts. It is, however, very possible that search through previous reports would result in an easy explanation of the great decrease, due, probably, to a reduction in the entrance fee.

Appendix F contains the report of the director of the Edinburgh Museum of Science and Art for the year 1881, under date of 16th January, 1885. Professor Archer acknowledges donations to his collections "of great value and importance," and an addition to his library of 547 volumes. There were 340,530 visitors in 1884, who paid admission fees amounting to £362 4*s.* There was an average daily attendance during 1884 of 1,995 on free days and 168 on pay days.

Appendix L (pages 303–306) contains a detailed account of the expenditures of the Department. An abstract of the payments made directly for drawing in the public elementary schools, and for the science and art schools, etc., is here given, as showing clearly the various methods of aid and the relative amount of assistance afforded to each. The final table, which is a summary of all the expenditures of the Department for the year (which are given in detail in the previous tables), is here given as showing something of the variety and extent of the work undertaken by this admirable department of the British Government:

Statement of certain items of expenditure made by the Science and Art Department in directly aiding and promoting Education in Science and in Art in 1884.

[Abstracted from the returns of expenditures, on page 303 of the thirty-second report of the Science and Art Department.]

Heads of service.	Amount.		
* * * * * * *	£	s.	d.
National Art Training School, South Kensington:			
C. 1. Salaries and wages	2,328	16	0
2. Maintenance of students	2,782	5	9
Schools of science and art, payments on results, grants in aid, &c.:			
D. 1. Science schools	61,656	12	3
2. Drawing in public elementary schools	36,587	15	9
3. Art schools and classes	26,126	14	0
4. National scholarships, &c., in local schools	3,211	8	9
5. Local secretaries of art schools	1,863	6	2
6. Special local secretaries and assistants	2,102	10	9
7. Scholarships, local exhibitions, and prizes	11,575	9	2
8. Grants for examples, &c	5,100	8	8
9. Building grants	1,195	18	6
10. Committee on solar physics	500	1	3
* * * * * * *			

Expenditure of the several divisions of the Science and Art Department of the United Kingdom for the period from 1st April, 1884, *to 31st March,* 1885.

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SUMMARY.

Heads of service.	Amount.		
	£.	s.	d.
A. Administration of Science and Art Department	32,856	18	3
B. Normal School of Science and Royal School of Mines	14,313	2	5
C. National Art Training School	5,111	1	9
D. Schools of science and art	149,920	6	3
E. Museum division	12,108	14	11
F. Purchases and circulation	27,880	18	5
G. Services common to the several divisions	74,546	10	1
H. Geological Museum	3,849	4	11
I. Edinburgh Museum	10,689	2	11
K. Dublin Museum	14,056	15	10
L. Royal College of Science (Dublin)	6,804	1	4
M. Royal Hibernian Academy (Dublin)	300	0	0
N. Geological survey of the United Kingdom	19,174	15	9
Total	371,611	12	10

THOMAS A. BOWLER,
Clerk in Charge of the Accounts.

The last thirty pages of the report, in Appendix M, are given to a "Report on a visit to the museums of America and Canada, by Valentine Ball, M. A., F. R. S., F. G. S., director Science and Art Museum, Dublin."

Some twenty-seven institutions, mostly museums of science, are recorded, with, in several instances, views and plans of the buildings. Only three museums of art and two art schools were visited in the United

States. Among these was the Metropolitan Museum in New York. The hearty appreciation of the usefulness and value of this museum, expressed by this director of a great European museum, is in striking contrast with some of the comparatively recent utterances by a portion of the New York press. There will be occasion, elsewhere in this Report, to quote at length from this friendly and appreciative report, as well as from the report made last year by Mr. Mather to the English Technical Commission.

The verdict of such competent authorities is of great value here, because there is sometimes a tendency to undue depreciation of home efforts, which is quite as injurious, and which is as really due to ignorance, as is that other tendency to over-appreciate local efforts and surroundings, which is commonly regarded as a symptom of that species of ignorance classed as "provincialism." It is well for all who are honestly and earnestly engaged in educational or artistic enterprises, to remember, that hostile criticism is often only a cloak for utter ignorance. Intelligent appreciation argues the possession of far more knowledge, as well as wisdom, than does indiscriminate denunciation; though there is a whole class of would-be authorities who fail to recognize this truth.

This rapid résumé of the contents of this thirty-second annual report of the Science and Art Department, may serve to give a partial idea of the variety and extent of the jurisdiction of that branch of the English administrative government, though only the most casual and incomplete reference to the science division of its duties has been possible.

The importance accorded to this Department is evident from the fact that it is placed in the Privy Council.

It is, in some respects, in the number and variety of the different institutions and bodies under its control for instance, somewhat akin to the overgrown Interior Department of the United States Government, with the accumulation of incongruous institutions, offices, bureaus, and duties, which in the course of years have been aggregated under a single Secretary; till only the fabled eyes of Argus and the hundred hands of Briareus would seem to be equal to the exigency.

However, in the United States as in England, organization makes effective supervision possible; and so, the complex machinery of modern government moves smoothly and efficiently; to result, let us hope, in an ever broadening civilization and in the increasing happiness and uplifting of all the people everywhere.

APPENDIX G.

"INDUSTRIAL EDUCATION."

I.—Introduction.
II.—Paper read by General Francis A. Walker before the American Social Science Association, at Saratoga, N. Y., September 9, 1884.

I.—INTRODUCTION.

Though the title of President Walker's admirable paper seems rather to connect it with Part II of this Report, yet in it he bears such ample testimony to the value of drawing as a study in all the public schools, and is so full of suggestions as to such modification of methods of teaching in the elementary schools, as is desirable from the standpoint of the advocates of manual training, that I have thought proper to include it in this volume, as useful to those especially interested in the common public schools of the country. As president of the Massachusetts Institute of Technology, the author of this paper has had every opportunity of observing the working of the school of manual training which forms a part of that institution, and upon this new form of practical education he is qualified to speak with authority. He is also, of necessity, familiar with the several classes of institutions devoted to the higher education in science, and in his classification the province of each is accurately defined.

It will be observed that he does not urge the multiplication of such schools as are the two first founded, the one in St. Louis, the other in Boston, but steps upon a broader platform, and urges, rather, the adoption of the principle which they illustrate in the education of boys.

This is imperative if any general result is to be reached, for, excellent as are these manual training schools, they are only available for a limited number of pupils; so that, if there were no other reasons, the expense of providing such schools by the public, or the necessary cost of tuition in private schools of this class, would prove an insuperable obstacle to their very general introduction.

The great majority of the pupils in the public schools must be reached by other instrumentalities, if at all.

General Walker realizes this, and his suggestions are made with direct reference to "the proposed changes in public instruction to the boys in our public schools."

These pioneer manual training schools have been of great service by demonstrating the feasibility of introducing systematic courses of training in the mechanic arts, and by proving that boys can be taught in classes, the dexterous use of tools; just as they can in like manner be taught to spell or to cipher. This is the corollary to the problem of teaching elementary drawing to classes, so thoroughly solved by Walter Smith. Whatever can be thus taught, at the same time, to numbers by one teacher, can be taught in public schools. The giving of manual training to pupils in the public schools becomes, then, for each community only a matter of detail, to be worked out by the educational authorities in concert with the teachers. In some parts of the country the demand for some form of manual training in public schools is already urgent. How best to meet this new want is a present and pressing problem. The school authorities of the city of Baltimore are the first to boldly attempt its solution, by attaching such a school to their system of public schools. Their experiment will be watched with much interest.

II.—INDUSTRIAL EDUCATION.

By FRANCIS A. WALKER, PH. D., LL. D.

President of the Massachusetts Institute of Technology.

In the active discussion now in progress concerning industrial education, that term is used in such widely different senses as to require that a paper treating of this theme should begin with a definition. With a view to this, I offer the following classification of the schools which undertake what is by one person or another understood to be industrial education.

SCHOOLS OF TECHNOLOGY AND APPLIED SCIENCE.

First, we have the schools of applied science and technology, whose purpose it is to train the engineer, the architect, the geologist, the chemist, the metallurgist, for the work of their several professions. These schools do not aim to educate the men who are to do the manual work of modern industry. In the main they do not even aim to educate the men who are to oversee and direct the work of others — the men, that is, who are to act as superintendents of labor. It is the function of the schools of this class to train those who shall investigate the material resources of the country, and shall project operations for the development of such resources, to be carried on by bodies of labor and of capital under the direction, in the main, of persons who have received their education and training in schools of a different order, or through practical experience in the field, the shop, and the mine.

The distinction here rudely outlined between the person who investigates the material resources of the country, in any direction, and organizes industrial enterprises for the exploitation of those resources, and the person who superintends and directs the labor employed in such enterprises, is not, indeed, strictly maintained; but it exists in a general way, although a tendency to employ, in increasing degree, civil, mechanical, and mining engineers, chemists and metallurgists in administrative and executive capacities, has been observed during the past few years.

The expediency of establishing schools of this class herein indicated is no longer a matter of debate. The General Government, and many, if not all, of the State governments have recognized the importance of thus providing for the scientific development of our industries, and the large and increasing measure of reputation and financial success enjoyed by the Troy School of Civil Engineering, the Hoboken School of Mechanical Engineering, the Sheffield School of Civil and Mechanical Engineering, the Columbia School of Mining Engineering, the Boston Institute of Technology, with its departments of civil, mechanical, and mining engineering, the Worcester Free Institute of Industrial Science, the Chandler Scientific School, and the Thayer Engineering School, both of Dartmouth College, with a score of other institutions, all deserving to be named were this the immediate subject of our paper, show that the value of such institutions has passed beyond challenge or cavil.

TRADE SCHOOLS.

A second and widely different class of institutions is found in the so-called trade schools. The purpose of schools of this class is to train the actual workers in industry, and to train them, moreover, for what it is presumed will be their own individual occupations in life. In the main these schools do not aim to train the overseers and superintendents of labor, but the individual operatives. And, in general, the work of these schools assumes that the particular avocation for life of the children who enter them is already reasonably well determined.

The efforts at industrial education in the states of Europe have commonly taken this form. The trade schools of Switzerland, of Holland, and of France are schools in which young people are taught defined trades, generally such as are pursued in the immediate region where the schools are established. Thus, certain trade schools in Switzerland have reference to the great watch-making industry of that country, and have it for their object to train pupils who, it is assumed, will, by almost an industrial necessity, become watchmakers.

MANUAL TRAINING SCHOOLS.

The third class of schools, and that to which the present paper will be confined, comprises those into which manual and mechanical instruction and training are introduced in greater or less degree; not, on the one hand, to make engineers; not, on the other hand, for the purpose of training the pupil to become an operative in any particular branch of industry which it is presumed he will enter; but as a part of the general education of the scholar, with reference to the fuller and more symmetrical development of all his faculties and powers, and to promoting his success in whatever sphere of labor it shall subsequently be determined he is to enter.

It is schools of this class the establishment of which is at this time being especially urged under the general title of industrial education.

In some respects the term "industrial education" is itself an unfortunate one. The term "mechanical education" would better express the objects of those who are now advocating an important modification of our system of instruction. But the term first referred to has been so widely adopted in the discussion of this subject that it is likely to be used long after the mechanical education of our children and youth has passed the period of debate and become incorporated in our public school system.

DIFFERENCES BETWEEN TRADE SCHOOLS AND MANUAL TRAINING SCHOOLS CHARACTERIZED.

The distinction between the trade school and the school of the kind last indicated will be seen, if properly contemplated, to be very marked. Not only does the trade school assume that there is a high degree of probability that the pupil will enter a definite field of labor, for which it undertakes to prepare him, but the establishment of such schools undoubtedly contributes, in an important degree, to enhance the probability of that result.

The confusion of trade education with a general mechanical education has undoubtedly engendered not a little of the prejudice which the scheme of industrial instruction has encountered in certain quarters within the United States. It has been alleged that the establishment of the proposed system would be opposed to the sentiments of our people and to the genius of our institutions, inasmuch as it would assume that the children who were to receive training were born to a certain condition of life, and were destined to perform a certain industrial rôle. The scheme of industrial education has, therefore, been objected to, as curtailing the glorious birthright of every American boy to become banker, merchant, judge, or President, as his own abilities and virtues may qualify him. It will appear, I think, in the further course of this paper, that the objection is founded upon a misapprehension, and that the adoption of the system of education under view would not only not confine the choice of the pupil as to his subsequent mode of life, but would tend to give him an even greater freedom of movement and action.

That the establishment of trade schools, in the strict sense of that term, has proved advantageous in many of the crowded communities of Europe, I entertain no doubt. When, by reason of the dense occupation of the soil and the diversification and localization of industries, the choice of young persons is, in fact, very closely limited, it is probably the part of wisdom to recognize that fact, to accept the situation, and to prepare the young as well as possible for the work which, by almost a moral necessity, they will be called to perform. That even in some communities of the United States the point has already been reached where the establishment of trade schools by private benevolence, or even by municipal authority, might be practically advantageous, I am not disposed to deny.

In any large city whose population is chiefly, and perhaps almost wholly, occupied in some single and highly special branch of industry, the instruction of the young in the arts specially concerned in the prosecution of that industry, may, not unreasonably, be deemed the dictate of practical wisdom.

Yet the position of those who have opposed industrial education on the ground that the United States have not reached the condition which requires or justifies the education, at the public expense and under State authority, of young children with reference to specific trades, is in the main sound and just. The proper answer to this objection is, that the system of industrial education proposed would rather enlarge than confine the subsequent choice of occupations by the children of our public schools.

PURPOSE OF MANUAL TRAINING.

The purpose sought by the advocates of so-called industrial education is the training of the eye and the hand of the pupil, and his acquisition of those elementary principles of physics and mechanics which underlie all dealing with the forces of nature and with material objects.

I have spoken of the "establishment" of schools for industrial or mechanical education. Yet, in truth, it is not so much the creation and endowment of separate schools of this character which is in view as the gradual conversion of all the existing schools of the land to this use, through the grafting of certain studies and exercises upon the traditional curriculum. Such conversion would involve only a slight disturbance of the structure of the existing schools; but it would require the surrender of a not inconsiderable portion of time to the new studies and exercises.

In order not to protract this paper unduly, or to provoke needless controversy, I shall, on the present occasion, confine my remarks to the relations of the proposed changes in public instruction to the boys of our public schools, leaving open the question whether the girls shall join in the new departure or not.

As to the precise nature and extent of the studies and exercises which should, to this end, be incorporated in the public school curriculum, and as to the order of these exercises, much difference of opinion will doubtless be developed among those who advocate an extensive modification of the present scheme of education. The true final system will, of course, have to be worked out through long discussion and experimentation. The following is presented as a fairly conservative programme:

SUGGESTED CURRICULUM FOR PUBLIC SCHOOLS.

Beginning with the pupil at the stage when Kindergarten methods and appliances are exhausted of their efficiency, the scholar should be instructed in the elementary principles of physics and mechanics through the use of simple models and apparatus, and should become familiarized through frequent statement and illustration, with the fundamental conceptions of geometry. There is a deep-seated popular error as to the age at which such things as the above can advantageously be acquired. It is too often assumed that because the young child is not competent to study geometry systematically he need be taught nothing geometrical; that because it would be foolish to present to him physics and mechanics as sciences it is useless to present to him any physical or mechanical principles.

An error of like origin, which has wrought incalculable mischief, denies to the scholar the use of the symbols and methods of algebra in connection with his early essays in numbers, because, forsooth, he is not as yet capable of mastering quadratics! If our children were taught to "do their sums," algebraically, at eight, nine, or ten, the later parts of the algebra would have far less terror for them at fifteen, sixteen, and seventeen. And yet, from the notion that the teacher must not take up any subject which the pupil is not prepared to go through with to the end and master scientifically, we drive our boys and girls to the most painful and absurdly roundabout methods of solving problems. The moment the child begins to "do sums" upon his slate he needs his x and y, and for lack of them he is continually driven back to "What d'ye call 'em" or "thingumbob," his unknown quantity, the object of his inquiry for which he is refused a symbol—the length of the pole, John's share of the cake, the number of gallons in the cistern, or what-not. The whole infant generation wrestling with arithmetic seek for a sign, and groan and travail together in pain for the want of it; but no sign is given them save the sign of the prophet Jonah, *the withered gourd,* fruitless endeavor, wasted strength.

To teach the so-called arithmetic of the common school without the use of the algebraic signs and notation is in the last degree barbarous; yet it is done, almost without exception, in the case of 10,000,000 of school children, all from the notion that they are not yet prepared to enter upon the study of algebra! Study of algebra! Algebra is a *tool,* and nothing but a tool, and, so far as equations of the first degree are concerned, it is a tool which the child needs the moment he is set to inquire in how many days Jones and Brown can do a piece of work together, if Jones could do it in ten days alone or Brown in fifteen. For an equally bad reason, many things have been withheld from school children, though these were things of which every child should be informed at the earliest possible moment, because they belong to geometry, for the systematic study of which the scholar has been held not to be prepared.

It is true that of late years teachers, drawing doubtless their inspiration from the Kindergarten, have presumed to give the geometry of the square and cube before requiring the arithmetic of square root and cube root; but this concession to common sense stands almost solitary and alone on the pages of the modern text-book.

ELEMENTARY CONCEPTIONS SHOULD BE IMPLANTED AS EARLY AS POSSIBLE.

Take, for example, the conception of a plane, the most difficult and the most important of all conceptions for the purposes of the geometer, the astronomer, the mechanician. This conception should, for subsequent success, whether in geometry, in astronomy, or in mechanics, be formed in the mind of the child at the earliest possible moment, just as the notion of right should be formed in his mind years and years before he is called to the systematic study of ethics. No subsequent effort can make up for the neglect of such fundamental conceptions in the very beginnings of education. The freedom and force with which these conceptions will be referred to and made use of in after life must in a large degree depend upon the age at which they are first acquired. They should be early implanted in the mind that they may grow with its growth and strengthen with its strength. What sort of students of literature would you have if you put off the teaching of the alphabet of letters till fourteen or fifteen or sixteen, as you in fact put off the teaching of the alphabet of science? You give the child English letters at five or six, and let him grow up, through long practice in easy lessons, with fairy stories and picture books, and tales of travel and adventure, to the capability of reading and comprehending the master-pieces of literature; yet it is only on the day when the young man begins the scientific study of optics, for example, that you give him a definition of light, and show him simple experiments in reflection and refraction. The student should at this age be unable to remember when he did not know these things; and no amount of hard work in after life can ever wholly make up for the lack of early familiarity with the subjects of his study, the value of which every instructor acknowledges in other branches of education, whether relating to literature, to morals, or to practical affairs.

FUNDAMENTAL PRINCIPLES OF SCIENCE READILY COMPREHENDED.

Time will not serve for an extended illustration of this subject. A child of ten or twelve years is capable of understanding the principle of the lever just as perfectly as did Archimedes of old Syracuse. Once implant that conception in his mind and it becomes germinal, and, without watering or tending, will bear fruit perennially through all his life.

A child of the same age can comprehend the principle of the arch, when illustrated by a few blocks from a carpenter's shop, as fully as does the architect who hangs a stone dome 100 feet in air; and when he has once comprehended the construction and office of the arch, his eye will never thereafter fall unintelligently upon an example of it. A child of the same age is capable of comprehending the law of perspective. Why in the name of common sense should one go on for years, walking through our streets or over the fields, his eye falling at every glance upon some object which is subject to this law, and yet never be instructed regarding it?

Do you ask how much of the elements of physics and mechanics should be given to the child of tender years? I answer, just as much as he will take, be the same more or less. And it is always safe to offer him a little more than he will take. It can't do him any harm. Cramming him with hard and lumpy facts, from so-called geographies or histories, may produce mental indigestion or colic; but an idea, an apprehended principle, never yet hurt a human being, and never will to the latest syllable of recorded time. For myself, I would not stop short of teaching a child the doctrine of the persistence of force through all its transmutations. Doubtless he would at first fail to apprehend it fully; yet he would gather something from its familiar, picturesque enunciation; and, as the proposition became familiar to his ear, and as illustrations of the equivalency of motion, heat, light, and sound were multiplied and repeated to him, I should hope that he would grow into an apprehension and appreciation of this grand all-embracing law.

VALUE OF SUCH YOUTHFUL IMPRESSIONS.

If it be asked of what advantage would it be to the youthful mind that it should be taught these and the like things, I answer: *First*, That if to observe phenomena quickly and clearly, if to reflect closely and justly, if to acquire an habitual, and in time, instinctive disposition to trace effects to their causes, if these things be among the prime objects of education, comparison may be challenged between the matter of study that has been described and the work that now takes up two-thirds of the time of the scholar of the age we have been considering. *Secondly*, That if the direct usefulness of the information acquired be adopted as the test of different systems of instruction, the elements of geometry, physics, and mechanics have preference, in an enormous degree, over the traditional studies of the primary and grammar schools. But, *thirdly*, that the main argument for the early acquisition of these elements is to be found in their usefulness as a preparation for the study of geometry, physics, and applied mechanics in later years.

DRAWING SHOULD RECEIVE MUCH MORE ATTENTION.

While altering in a degree the traditional curriculum of the public schools by the introduction of the elements of geometry, physics, and mechanics, I would recommend the extension of the drawing practice of the schools even beyond the point to which it is now carried in our most enlightened cities. And it is a consideration of prime importance in this connection that, great as is the interest awakened by drawing practice, under the better teachers, even as students are now prepared for it in our public schools, those exercises would acquire a vast increase of attractiveness from the studies already described in the elements of geometry, physics, and mechanics. The pupil would in a higher degree appreciate much that he was called to do in his drawing exercises, and would find a heightened pleasure in the practice of this art as it became a means of expressing principles with which he had been made familiar. And as the drawing exercise received a great enhancement of attractiveness through the pupil's comprehension of the principles underlying the figures and designs to be constructed, so, at the other end, would it receive a fresh addition of interest by being correlated with the shop-work in wood, in iron, and in clay, which according to the friends of industrial education, should form a part of the exercises of the public schools.

WHAT THIS INDUSTRIAL EDUCATION IMPLIES.

We here reach the last stage of our subject. Industrial education involves, first, the teaching of the elements of geometry, physics, and mechanics; secondly, drawing; and, thirdly, shop-work of one kind or another. During the past few years practice in the mechanic arts, especially in wood working, but also in forge, foundry, and lathe work, has been introduced as an integral part of a system of education, in several sections of the country. No one is known to have been in any way connected with this new kind of teaching who is not an enthusiastic believer in its beneficent effects at once upon the scholar and upon the general system of public instruction; while of late converts have been rapidly made from among those who formerly doubted or denied the expediency of this innovation in education. The year now closing has seen the school-room space, the apparatus and machinery, and the teaching force devoted to this work more than doubled, perhaps we might say trebled. The next year will undoubtedly witness an even greater increase. The thing is coming, and coming fast, faster probably than the means can well be provided; and doubtless mistakes, not a few, will be made in the haste to introduce this kind of teaching.

In general it may be said that the course of propagation is likely to be from the high school downward to the grammar, and then to the elementary schools, and from the city outward through the small towns to the rural districts. The chief difficulty to be encountered will not be the difficulty of finding means or the opposition of school committees or boards of aldermen, but the lack of competent teachers. In this view the State of Massachusetts has wisely initiated practice in the mechanic arts in two of its normal schools.

At the Massachusetts Institute of Technology, which eight years ago, under the enlightened administration of Dr. Runkle, established a school of the mechanic arts, the applications for instructors in this department are already far in excess of those which can be met. Dr. Runkle has, within a few weeks, issued a pamphlet* which embraces in condensed form many well-considered suggestions regarding the organization of this kind of schools, with detailed statements as to the equipment of shops for instruction in the mechanic arts. The reports of the Saint Louis Manual Training School, under the supervision of its capable and enthusiastic director, Professor Woodward, contain information of great value regarding the new form of education.

ANTICIPATED ADVANTAGES.

The advantages to be anticipated from the introduction of training in the mechanic arts into the grammar and high schools of the land are many and important.

First, it will increase the freedom of industrial movement, allowing our youth as they leave school to find for themselves places in the industrial order with more of ease and assurance than at present. This, as has been said, is in contradiction of a vague popular opinion that the proposed system is in the direction of class education; but the principle is undeniable; only the degree of its importance can possibly be disputed.

A lad of fifteen leaving the grammar school, or a lad of eighteen leaving the high school, is not required to become a mechanic because he has had long practice in the use of tools, because he has acquired a familiarity with the materials of construction, because he has become neat, dextrous, and expert in manipulation, because he can make a working-drawing of a piece of machinery or of furniture; because he has had his sense of form, of magnitune, and of proportion trained to the nicest discrimination, and because he can work with his eye and his hand, as well as with his brain, and with all of these in the closest co-operation. But if he *is* to become a mechanic he will have a much wider choice between individual trades, by reason of these things; and again, when he has chosen his trade he can acquire the special knowledge and the special skill requisite thereto in one-half the time which a mere apprentice would take, and he will acquire them, moreover, to much better effect; while, still again he will be a workman who, after a few years of practice, will be fit, by reason of ability to make working-drawings, knowledge of mathematics and mechanical principles and superior mental training, to be promoted to the post of foreman or superintendent of instruction; or he may set up for himself as contractor or master, with a prospect of success far exceeding that of one of equal natural abilities who has enjoyed only the special training of a single trade.

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* Report on Industrial Education, by John D. Runkle, Ph. D., LL. D., Walker Professor of Mathematics, Massachusetts Institute of Technology. Boston: W. F. Brown & Co.

Secondly, so far as the graduates of the reformed grammar and high schools are not to become mechanics, they will certainly be no worse off, in any way, by reason of this training, but in many ways they will be the better qualified, even in commercial pursuits or in clerical capacities in connection with manufacturing or railroad enterprises, to make themselves useful to their employers from their manual dexterity, the capability of using tools and the special knowledge acquired in school. But far more than this will be the advantage derived from the training of the perceptive powers, the formation of the habit of observation and the development of the executive faculty, the power, that is, of doing things as distinguished from thinking or talking or writing about them. To these, the traditional curriculum of the schools fails to minister in the smallest degree; and the longer mnemonics, analytics, and dialectics are exclusively pursued, the farther is the student carried from the temper and the qualities of mind which achieve success, except in a few closely restricted and already overcrowded professions. It is the sense of this which leads so many parents to withdraw their children at an early age, reducing the number who go forward from the grammar to the high school, to a petty fraction of the whole number.

THE PROPOSED CHANGES WOULD PROMOTE INCREASED ATTENDANCE.

With the school exercises modified and diversified as has been proposed, I sincerely believe that the average period of attendance would be at once appreciably increased, and that parents would withdraw their children only at the demand of pecuniary necessities which could not be denied, and not, as so largely now, because they feel that the school is doing nothing practically useful for their children, and indeed, that the longer they stay, after fifteen, the less will they be fitted for the work of life.

Thirdly, the introduction of shop-work into the public system of education cannot fail to have a most beneficial influence in promoting a respect for labor and in overcoming the false and pernicious passion of our young people for crowding themselves into overdone and underpaid departments, where they may escape manual exertion at almost any sacrifice. This tendency of the times has been loudly complained of, but how have those a right to complain who support the old order of things under which all the praise and all the prizes of the school are bestowed upon glibness of speech, retentiveness of memory, ease or force of declamation, and skill in dialectics? If the authority of the State and the influence of the teacher combine to set up such a standard, what wonder that the pupil accepts the same view of what is admirable and desirable, holds other qualities in little esteem, and deems himself too fine for a common trade and a humble calling. Let the State honor labor in the school; let some of the praise and some of the prizes go to neatness of manipulation, skill in the use of tools, taste in design, patience and ingenuity in execution; let the pupil see his master, now and then, with his coat off and a paper cap on his head, teaching the use of the plane and the lathe; give the boy to know the delight of seeing things grow and take shape under his hands, and it requires no prophet to assure us that our young people will come to look on life very differently and much more wisely.

A PECULIAR ADVANTAGE OF THE PROPOSED CHANGE.

Fourthly, the consideration which weighs more than any other, in my mind, is that the introduction of shop-work into the public schools, closely affiliated with exercises in drawing and design, will give a place, where now there is no place at all, or only a most uncomfortable one, to those boys who are strong in perception, apt in manipulation, and correct in the interpretation of phenomena, but who are not good at memorizing or rehearsing the opinions and statements of others, or who, by diffidence, slowness of speech, or awkwardness of mental conformation, are unfitted for intellectual gymnastics. It is mighty little which the ordinary grammar or high school does at present for scholars of these classes. Not only do they, at the best, get little personal pleasure from their work, and receive little of the commendation of the teacher, but, in the great majority of cases, they are written down blockheads at the start, and have their whole school life turned to shame and bitterness. And yet it not infrequently happens that the boy who is so regarded because he cannot master an artificial system of grammatical analysis, isn't worth a cent for giving a list of the kings of England, doesn't know and doesn't care what are the principal productions of Borneo, has a better pair of eyes, a better pair of hands, and, even by the standards of the merchant, the manufacturer, and the railroad president, a better head, than his teacher.

UNFAIRNESS OF THE PRESENT RESTRICTED EDUCATION.

I desire not to exaggerate; I wish to speak with the utmost seriousness and in strict truthfulness. Of how much advantage is it to a scholar in the average grammar school of Boston or New York or Chicago, in doing his work or in earning the praise of his teacher, that he has a quick perception of form and color; that he sees everything presented to his view at once broadly and particularly, his eye taking in all the features of an object in their due order and proportion, his mind justly interpreting the significance of each and every feature by turns and in the whole; that he has a subtle touch, great patience under vexation, an ingenious and inventive mind? There are as many boys in our schools of whom the above can be said as there are of boys who are quick to memorize and rehearse the opinions and statements of others, or are strong and lively in the gymnastics of arithmetic and of grammar. There are not only as many of the former class of boys as of the latter, but they are quite as deserving of sympathy and respect, besides being rather better qualified to become of use in the industrial and social order. And yet for that class of boys the school offers almost nothing upon which they can employ these priceless powers. They may, by laboring very painfully over the prescribed but uncongenial exercises, escape the stigma of being blockheads, but they can never do very well; they will always be at a disadvantage in comparision with boys of the other class; they will know nothing of the joys of commendation, and it is most fortunate if they do not become discouraged, indifferent, and in time careless or even reckless of their standing. Such boys are practically ploughed under in our schools, as not worth harvesting. The teacher may be ever so pitiful and patient; that matters something so far as the child's happiness is concerned, but, so long as he is kept wholly at exercises for which he is not by nature qualified, it makes little difference as to his chances of success as a scholar.

The introduction of practice in the mechanic arts would strike a responsive chord in the hearts of all boys of the class I have so inadequately described; it would at once give them something to do in which they could excel; it would quicken their interest in the school; it would save their self-respect; to many of them it would open a door into practical life.

HOW THE INTRODUCTION OF DRAWING ILLUSTRATES THIS.

For a partial illustration of these effects, let me refer to the introduction of drawing into the public schools, already so widely accomplished. If the acquirement of this art were absolutely of no value; if the training of eye and hand involved were put out of account, I fully believe that, in spite of the very shabby way in which this subject has generally been taught heretofore, drawing in the schools has repaid its cost ten-fold, simply in the opportunity it has given to a host of scholars to do something well, to their own satisfaction, to the commendation of their teachers, and to the admiration of their mates.

Here is a little fellow who has no aptitude for the traditional studies of the schoolroom. He has either given way after a short struggle to a feeling that he is a dunce anyhow, and that it is of no use to try; or, after a longer and harder struggle, he has succumbed to a still more bitter and lasting discouragement. He has become accustomed to be blamed at school and at home for his low standing; he has ceased to listen for words of approbation; he has learned to expect a look of sadness or of anger on his father's face as his monthly card is presented.

But now a new exercise is introduced into the school, and after the inevitable blottings and smearings of the first trials, it comes one day to the comprehension of the teacher that this boy has executed his work better than any other scholar; has done best of all something which by authority has been pronounced worth doing. For the first time that lad, who has all the while been struggling with a hopeless incapacity for identifying "appositive modifiers" and "cognate objectives," hears the sweet and pleasant voice of praise, sees the admiring glances of his comrades fall on him, yes, on him! and feels the pulse of ambition throb at his temples.

With what anticipations of pleasure will this lad hereafter await the signal to take up drawing; with what pains will he execute his work, with what pride hand in his faultless sheets! How changed to him henceforth is the school-room; how differently, even, sounds the school bell in the morning! If the introduction of drawing has done so much for many a boy, how much more fully and completely will the needs of this class of youths be met by the introduction of shop-work in its various branches of carpentry, forge, foundry and lathe work, in intimate and vital relations with drawing and with the elements of geometry, physics, and mechanics!

VALUE TO THE COMMUNITY OF THE NEW TRAINING.

I might dwell on other considerations; upon the impulse to be communicated to invention and discovery; upon the disclosure, here and there, of rare mechanical genius, which, under the old system of education, might have been hopelessly lost in a dreary wilderness of words; upon the value of the arts acquired in saving disrepair within the home, enabling the thousand needed strokes of the hammer to be well and promptly given, securing the insertion of the nail in time that saves nine; upon the virtue which a general mechanical education of the people would have in preserving and exalting the priceless sense of social decency, which keeps the fence along the village street in order, the gate hung, the glass set, the shutter in place; but perhaps I have already said enough to introduce the discussion of the question of industrial education.

APPENDIX H.

INTERNATIONAL CONFERENCE ON EDUCATION HELD IN LONDON AUGUST. 1884.

I.—Introduction.
II.—Inaugural address by Lord Reay, president of the Conference, with brief responses by the American Minister and by Mr. Mundella.

I.—INTRODUCTION.

The inaugural address by Lord Reay, before the distinguished body of delegates to the first International Conference on Education, is here given as the concluding appendix to the introductory volume, "Part I," of this Report.

As the purpose in compiling this volume has been to collect from every available source, whatever might be of use in the discussion as to what form of elementary training in the public schools is most essential to the best and fullest development of the industries of a people, irrespective of the question as to whether their trained activities are ultimately to be directed to mechanical, scientific, or artistic production; that is, either to the making of machines, the building of ships, the development of mines, the cultivation of the soil, the construction of highways; or, to the erection of buildings, the weaving of textiles, the shaping of costumes, the making of fictile wares; or the design and creation of such works of beauty, as are embodied in the productions of the higher arts; the following comprehensive address, with the responses, made on the occasion of the opening of the International Educational Conference held in connection with the Health Exhibition in London, in August, 1884, brings it to a fitting conclusion.

This fitness arises from the fact that, while the importance of the study of elementary drawing receives due recognition in this admirable address, the cultivation, from the earliest years of school life, of the habit of accurate observation, the value of manual training, and the utility of additional technical industrial training, are also clearly set forth, which features of the address are in full accord with the subject-matter of this volume. The imperative need of the highest scientific and technical training, as an essential factor in the prosperity of a manufacturing people, is also shown. At the same time the value of every form of higher education as contributing to the broadest and best development of a people, and of all knowledge which tends to promote the arts of civilization and to cultivate the amenities of social life; thus adding to the pleasure arising from the display and use of objects of beauty and convenience, the rarer and varied charms of intellectual and artistic culture, are eloquently set forth.

Hospitable to the modern idea of introducing scientific methods in every department of education, abreast of the contemporary movement for the practical training of the world's workers to precision and efficiency in their several industries, the distinguished speaker is, nevertheless, wisely conservative of all that is of proved excellence in the older methods, and is intelligently appreciative of the charm of that old scholastic training, the results of which, embodied in the world's literature, have, from age to age, kept securely treasured for mankind the record of the past achievements of the race; without which, the Science of to-day had been impossible.

The generous catholicity of this comprehensive setting forth of the claims of education in its various phases, fits this discourse to serve, not only as the harmonious ending of the present volume, but, also, in a measure, to foreshadow and introduce the concluding volumes of this Report; which volumes are to contain accounts of the various public educational instrumentalities available for technical, and artistic training, now existing in the United States.

The grave importance of early elementary industrial training in the schools of the people, so tersely stated by Lord Reay in his opening sentences, and the indorsement of that statement both by Mr. Lowell, and Mr. Mundella, give to these inaugural proceedings a significance, which makes this report of them a fitting summing up and ending of the present volume.

II.—INAUGURAL ADDRESS BY LORD REAY.

* The International Educational Conference, in connection with the Health Exhibition, was opened at the new City and Guild's Institute, South Kensington, on Monday, the 4th inst. The chair was taken, at 11 o'clock, by the Right Honorable A. J. Mundella, M. P., vice-president of the council, and the large and representative company of visitors included the American, Persian, and Chilian ministers. * * *

A long list of foreign and English delegates followed.

Mr. **Mundella** said: Your excellencies, my lords, ladies and gentlemen: In the unavoidable absence of my noble friend, Lord Carlingford, I have undertaken to preside at the opening of this conference. I shall not be so rash at this stage of the proceeding as to commit myself or the department with which I am connected to anything whatever. I have no doubt that during the present week we shall learn very much, to the great public advantage of the education of our country. I shall confine myself now to calling upon our worthy president, Lord Reay, to open the conference. [Applause.]

Lord **Carlingford** (lord president of the council) entered the meeting a few minutes later, and took his place in the chair.

Lord **Reay** said: The building in which we are assembled marks a new departure in English education. Like most good things in England, it is the splendid result of local munificence, of local effort to satisfy a want long felt, at last acknowledged. The *genius loci* will, I hope, impart itself to the conference; and it too will, I trust, show us new channels of enterprise, and give to our thoughts on many subjects a new starting point.

We are not here to codify a system of education. We are aware that toleration of opposite views is the first result of a liberal education; that nothing could damage education more than fanatical adhesion to preconceived notions. In England, hitherto, we have been hospitable to every possible method of education, and we do not intend to ostracise any. The standard school, which all other schools are forced to follow, is a despotic institution which will not meet with favor in England.

I crave your indulgence for a few remarks on some of the burning questions of the day. If science is a constant inquiry into the causes and probable effects of the phenomena by which we are surrounded, it follows that we can never allow the process of inquiry to remain dormant. Constant observation of the various forces which are operating is the main element of education. The development of the powers of observation to satisfy an ever-expanding curiosity is at the root of every system of rational education. How to observe, and what to observe, in the past and in the present, is the ever-recurring function of education through life. Apply the test to the humblest and to the most exalted professions, you will see that the test does not fail. The agricultural laborer, whose work is of the most interesting description, will be efficient or inefficient, exactly in proportion as his faculty of observation has been developed. Nature will teach him something every day of his life, if he has been taught how to watch her workings. It is the same for the astronomer; observation is to him the first necessity.

IMPORTANCE OF DRAWING EVERYWHERE RECOGNIZED.

In primary education this truth is more and more recognized; and drawing, as well as elementary science and manual work, are being put in their proper places.

Belgium is moving vigorously in that direction, following with reference to manual work, Sweden, where the *slojel*, or school of domestic industry, may well claim our attention. Two French ministers of education, Mr. Bardoux, and the present premier (Mr. Ferry), have given their verdict in favor of the extreme importance of drawing. Sweden also contributes to gymnastics that efficiency of training which—as we are so near to hygienics—I need only indicate with a word. The monopoly of the three R's is doomed, and the enthronement of the three D's—drawing, drill, and adroitness—approaching.

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* From "The Schoolmaster," August 16, 1884.

The primary school must not degenerate into a mere workshop. I do not agree with the procureur-general, de la Cholotais, when he complained of the subversive influence of the Jesuits in teaching children to read and write, who ought only to learn to handle a hammer or a plane. In pleading for rational being substituted for mechanical methods, I simply desire to rouse inquisitive tendencies, which, in many cases, now are deadened; to make the primary school, not the early grave of individuality, but an attractive spot where the productive use of leisure as well as of the hours devoted to work, coupled with the surroundings of prints and flowers, shall give pleasure to the boys and girls who frequent it. I need not say how important the invaluable report and recommendations of the royal commissioners on technical instruction are, and none more so than those bearing on agricultural education, to the effect that "in rural schools instruction in the principles and facts of agriculture, after suitable introductory object lessons, shall be made obligatory in the upper standards," as it is in Ireland, and "that encouragement should be given, by way of grants, to practical work on plots of land attached to such schools." Agricultural education is considered in certain quarters as a luxury.

I may be allowed to use the strongest expressions to deprecate this extraordinary error. At the present moment the future of rural society is a great problem. The bearings of this problem on society in general are obvious. The land question is in all countries one of paramount importance. *Ad nauseam* we are told that land is a limited quantity, and then almost immediately after we are told that for that reason it should be made common property. The deduction to be drawn from that palpable axiom seems to me an entirely different one, namely, this: that we should throw into the management of land the highest possible skill. Gold is a rare commodity, therefore you only give it to a skilled artisan; on the other hand, the management of the soil which raises a host of scientific and economic considerations of the utmost delicacy is left in most cases to those who have not had any training in science or in the technicalities of agriculture. Farming is a pursuit which requires in these days the utmost skill and versatility. The fact is admitted, not by mere theorists, but by the most practical agriculturists in every country. We used to hear a great deal of the practical soldier as opposed to the academic soldier, but since recent wars we hear a great deal less of the former, though I do not wish that often great character to become extinct. So it is in the agricultural world. These years of depression have been the death-knell of unskilled farming. The notion of farming, of estate management, not requiring previous technical education, is quite as absurd as entrusting Her Majesty's iron-clad Inflexible, with its complex machinery, a floating laboratory; not to a scientific officer like Captain Fisher, but to a skipper of a Yarmouth fishing smack.

I shall not inflict any statistics to-day on you; but I should like to know what the loss is resulting from unskillful agriculture. Transform agriculture into a skilled pursuit, multiply men like Lord Walsingham, and we shall probably hear as little of the wish to reduce the surface of the globe to encampments of squatters as we now hear of a division of commercial navies, which are also a limited quantity, that cannot be expanded indefinitely. Not to be misunderstood, I should like to point out that in this case also science will not rob the people of enjoyment but add to it.

My friend, Sir John Lubbock, has insisted on forestry being taught. How much of enjoyment has been lost by the wanton destruction of forests, and the neglect of planting forests. The preservation of Epping Forest answers this question. By how much could the consumption of milk be increased if dairy farming were conducted on scientific principles? How are you to feed humanity in the next century if population continues to increase at its present ratio? How are you to stem the tide of immigration to the large towns? Only by giving to the rural districts that sense of pride which their inhabitants can only have if they realize that they are members of a body which commands universal respect, like the Army and the Navy, whose scientific branches have in recent years made gigantic progress. You see that in this respect, as in most other respects, I do not agree with Voltaire when he wrote to de la Chalotais, "I am grateful that you disapprove of learning for agriculturists. I, who am an agriculturist myself, do not want *savants* for that purpose." *We* do want *savants*, and I am happy to say that the University of Edinburgh has recognized this; but, in addition, we want trained agents, trained farmers, and trained farm laborers, just as much as we want trained merchants, trained manufacturers, trained mechanics, trained foremen, trained artisans.

TECHNICAL EDUCATION A NECESSITY.

Through technical education we must recover lost ground since the Middle Ages, when in Italy, at all events, an artisan was an artist. There is some injustice in the favorable view we entertain of our enlightened century as compared with the dark times which have left those splendid monuments of art.

The great controversy about the relative merits of the gymnasium and of the *realschule* has not yet invaded England. Is it because the classical school enjoys a sense of perfect security, or is it because the technical instruction commissioners have only sounded the first note of alarm? One thing is certain: we shall have to make up our minds for a large increase of schools with a modern curriculum. What is called the perfect school, which embraces every branch of learning, would certainly never meet with favor in England. It would only lead to ancient and modern languages and science being all equally badly digested by the pupils. Such programmes, if approved by the Whitehall inspectors, would ere long attract the notice of sanitary inspectors of the local government board. The only chance of anything being taught thoroughly would be, not the efficiency of all, but the inefficiency of some of the teachers. This was illustrated in a German gymnasium, where the director, on being asked how it was that the Latin of his pupils was so satisfactory, replied, "Oh, because we are fortunate enough to have a very inefficient mathematical master." The exclusion of the study of the ancient languages does not mean the exclusion of the study of the institutions of ancient Rome and Greece. It is a fair question whether a student of German, reading German authors on the literature and institutions of Greece and Rome, will not have a deeper insight into their character than the youth who has been victimized to write hexameters. Will Mr. Warre make the study of German compulsory for all Etonians, as the bishop of Chester recommends? Will he put a stop to classics in all cases where the mind shows no capacity for their profitable influence? I do not go so far as Herbert Spencer, who quarrels with the sculptor of the Discobolus, because, unfamiliar with the theory of equilibrium, he placed him in a position which must cause him to "fall forward the moment the quoit is delivered." I do not believe that the Discobolus will cease to be admired by those who are versed in the laws of equilibrium; by German staff-officers, for instance, because Moltke approves of a scientific education in preference to a classical training.

There is a great deal of truth in Thiers' apprehension when he said, "At a time when religious convictions are weakened, if the knowledge of antiquity also became faint, we should have become a society without moral links of the past, exclusively acquainted and busy with the present, a society ignorant, lowered, only fit for mechanical industries." I also agree with M. Saint Marc de Girardin, "That if we were to clear out of our brain all the ideas we have received from the Greeks and Romans we should be frightened to realize how little remained." But the spectacle of Claude Bernard, the founder of French physiology, working in a cellar of the College de France, and shortening his life by the martyrdom inflicted on him through the absence of a laboratory, is quite as potent an educational factor as the philological research which culminates in the restoration of the original text.

HOW TO MAKE THOROUGH EDUCATION POSSIBLE.

A lawer ignorant of Roman law, a theologian ignorant of the Greek testament, an artist without classical training, seem to me imperfectly educated; but then an architect, an engineer, a doctor not trained in science, are equally unsound. The whole contention is simply one of possibilities. The hatter of a great statesman lately told him that his head had grown larger within the last ten years. We are told that a French physiologist has come to the conclusion that in generations, who from father to son have constantly used their brain, an enlargement of the skull has taken place, which, in ten centuries, would make a difference of six millimeters. The power of expansion is therefore limited, and we must have bifurcation, and if we give a variety of instruction in both schools by the teaching in both of modern languages and history, which cannot be neglected, we shall find a common ground for those who take up science and those who take up classics. Not a mere smattering of "Allgemeine Bildung" is the aim of English education; it has always striven after thoroughness, "*non multa sed multum.*" The bifurcation is rendered necessary by the very fact that a combination of both curricula would damage them both. If we are to give secondary education of any value to a large part of the population this is the only way of doing it, because they cannot afford to waste time on classics. The complaint is as old as Montaigne, who, in his day, bewails the fact of the great number of people whose mental growth was stunted by the inordinate desire to learn overmuch.

THE OBJECT OF EDUCATION TO STRENGTHEN, NOT WEAKEN, THE CHARACTER.

By education you do not want to enervate, but to strengthen, the will of the individual, and to give to his character a manly independence. The highest culture, undoubtedly, is found among the representatives of the classical school. It would be sheer ingratitude not to recognize that to it we owe writers like Newman, theologians like Lightfoot, orators like Gladstone, statesmen like Goschen, poets like Browning, artists like Alma Tadema, historians like Lecky, metaphysicians like Flint, essayists like Lowell, biographers like Trevelyan, critics like John Morley, not to mention names equally illustrious among the living and the dead, here and abroad. * * *

The great bulk of the nation is not intended to speak and write, but to work, and must therefore be trained to satisfy the requirements, not of ancient Rome and of ancient Athens, but of society as at present constituted, with its extraordinary development of international relations It is the Realschule which makes it possible for young Germans to write letters in three or four languages besides their own, and to fight their way into the offices of our merchants at Manchester and at Bombay. Michel Chevalier said of the Ecole Centrale des Arts et Manufactures: "If it were not in existence it would be necessary to create it as the complement of the treaties of commerce." We have too long neglected that side of our educational system, forgetting that such schools are much more likely to benefit the greater number of those who frequent them than classical schools which only benefit a select few.

SCHOOLS MUST BE VARIED TO MEET VARIOUS NEEDS.

But if you have admitted that one type of secondary school is as impossible as one type of primary school or one type of University, you have recognized another great truth, namely, that you cannot centralize your education. The needs of nations, of localities, of individuals, are so varied that it is impossible to draw up one code. It will be unnecessary for me to remind this audience of the absolute failure to assimilate English, Scottish, and Irish education, though perhaps not everybody here would be prepared to consider this a satisfactory phenomenon. But let us ask our French friends whether they are satisfied with a centralized machinery. What does Pasteur say? How does he answer the question, "*Pourquoi la France n'at-elle pas trouvé d'hommes supérieurs au moment du péril?*" As follows: "While Germany was multiplying its universities, and establishing among them a most salutary emulation; while it was surrounding their masters and doctors with honor and consideration; while it was creating vast laboratories furnished with the best instruments, France, enervated by revolutions, always occupied with sterile aims at a better form of government, gave only a heedless attention to its establishments of higher education."

The late eminent Dumas, one of the eight inspectors of superior instruction in the University, speaks not less positively, "If the causes of our marasmus appear complex and manifold, they are still reducible to one principle—administrative centralization, which, applied to the University, has enervated superior instruction." A professor in the faculty of medicine, Lorain, boldly says: "We demand the destruction of the University of France, and the creation of separate universities." The Germans do not centralize; there is no *Reichs Ministerium* for education at Berlin. Ask Dollinger whether he would sanction the destruction of autonomy in matters of education in the various states of Germany.

My friend Sir Lyon Playfair assures us: "A free country like England will not tolerate state unity in education, any more than it has tolerated it in any region of her politics." Notwithstanding this gratifying assertion, he must allow me to look with considerable suspicion upon his conception of a minister of education. I am told that Herbert Spencer on one occasion maintained the opinion that we might, perhaps, be all the better for the absence of education, leaving it to the friction of life to develop individual powers.* This is an extreme view; but it is more human than that of our poet Gascoigne, who says, "A boy is better unborn than untaught." Adventurous and enterprising men, though uneducated, have done great things.

The tyranny which would compel the human race to be educated on identical lines seems to me to have nothing human in it at all; and I am quite certain of this, that our Empire can only be maintained if we give free scope to the greatest variety of methods of education. The French Canadian, the settler in New Zealand, the Parsee in Bombay, the ryot in the Deccan, the Scottish bursar at Aberdeen, the Connemara peasant, are all entitled to have that system of education which will develop on national and historic lines the strongest features of their race, though none of them may be able to compete for the Hertford scholarship.

If every nation were to give full play to the variety of talents which it contains, instead of trying to press their schools in one mold, we should hear less complaints of want of originality.

THE IDEAL OF A TRUE UNIVERSITY.

Are the universities to take cognizance of the technical part of education, or are they to take no part in this great movement? If the universities train our statesmen, our doctors, our lawyers, our clergy, our literary and our scientific men, I can see no reason why they should not also give us the highest engineering, artistic, financial, commercial, and agricultural skill. Why should the great institute which gives us its hospitality to-day not form part of the University of London of the future? The idea of a university is not to grind a certain number of individuals in a certain limited number of studies, and then invite them to write down answers to printed questions.

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* Mr. Herbert Spencer has since denied that he is the author of this idea.

The idea of a university is to supply the highest wants of a nation in every direction, not in one. "*Discite vitæ non scolæ.*" If the best scientific teaching is to be represented at the universities, and if technical education in its most advanced stage is to obtain it, why not at the university?

It is a gratifying fact to me, as rector of the St. Andrews University, to be able to recall the fact that in the organization of that university, after the Reformation, one of the three colleges was to devote itself to teaching dialects, mathematics, including arithmetic and geometry, cosmography, astronomy, and natural philosophy. After attending this course for three years and passing a successful examination, the student "shall be laureat and graduate in philosophy."

I do not forget that a university is not merely a place for professional training, but for high research. I prefer the German system, where both objects are united, to the system which has obtained in France, where the *Collége de France and l'Institut Pratique des Hautes Études* overshadow all the universities, from which they are separated, though, we must recollect, the two professional schools, *l'École Normale et l'École Polytechnique*, have given to France its most eminent *savants.*

This question is a question of division of labor. Huxley and Ray Lankester will not grudge lecturing to those who are capable of benefiting by their teaching. The important element in university training is that those who attend the lectures should be quite fit, by previous training, to follow the lectures; that the lectures should be given by the most learned men, and should have a stimulating influence on those who attend them. Any pupil of Jowett's will agree to this proposition. You will, of course, have to graduate your lectures for those who intend to give up their lives to study and for those who wish to enter on a profession, but the best teaching will be at the disposal as well of the one class as of the other. The object is not to burden the men who are the highest representatives of learning, but to increase the number of those who come under their influence to make the influence of the university felt in a wide circle. That is, I know, the object of the best men at our universities; and I may, perhaps, couple the name of Professor Stuart with these efforts.

EXAMINATIONS ILLUSORY AS TESTS OF LEARNING.

What you want is to reduce the necessity of artificial intermittent examinations by increasing that unremitting self-examination which is the natural result of constant attendance at the best teaching. An examination can never become a corrective of indifferent teaching, and I had rather not answer the question whether it is an unerring test of the results of good teaching. I can only say that I was glad lately to be told confidentially by one of the most eminent men engaged in the higher education of France that he held very heretical views on the subject of examinations.

THE TRIPLE TASK OF THE UNIVERSITY.

The task of the universities is to collect as great a number of eminent men as they can find. The triple task of these men will be, firstly, to fill every profession and every walk of life with men who will be able to grapple with the problems they have to face, because they have been taught what is implied by scientific method; secondly, also to reproduce, as it were, themselves by training new leaders of future generations; and, thirdly, to add to our intellectual capital by research. I am opposed to the professors at universities degenerating into what M. Renan has stigmatised as "*amuseurs publics*," who give entertaining and brilliant lectures. The class-room of a professor should only be filled with the flower of the youth of a country, but that flower should be recruited from all classes of the community. The luxury of idleness alone ought not to be tolerated at a university; every other luxury, in the way of bursaries and scholarships, should be granted; every variety of excellence should at once be absorbed. I say this in London, where we have this variety, but where we keenly feel the want of the "Alma Mater" which will gather these wandering orphan lectures. Let us hope that the next conference will be welcomed by the chancellor of a teaching university for London.

I do not wish the universities to stand in solitary grandeur, remote from the life of the people. An eminent Radical statesman said to a professor who was putting in a good word for the existence of other agencies than the mere impulse of the multitude, "it is the like of you who are worse than Peers." The remark was sufficient. The French aristocracy is destroyed. The French university retains its ancient lustre.

SCIENCE FORMS THE BASIS OF MATERIAL PROSPERITY.

Science is never sensational, but from its very nature progressive, because always constructive, and using, not wasting, the materials of the past, to build the future on a solid foundation. A cynical plutocracy and an uneducated democracy both are inclined to be wasteful and destructive; both are inclined to set up shams. Science cannot set up shams, but invariably destroy them. The patient, the cautious attitude of true science, in dealing with obstacles to progress, will not always suit the impatient and often generous impulses of democracy. One of the great dangers of the future is a collision between these two forces. How can we prevent it? Only by giving the democracy confidence in the aristocracy of science, an aristocracy which is self-made, and can only perish with science itself. It is an independent aristocracy, because the moment science becomes servile it loses its *raison d'etre*. Its labors are the main cause of the prosperity which is enjoyed by the people, and of the greater prosperity which is in store for them if they listen to the voice of wisdom. The notion of equal comforts for all, *le régime des appetites*, has nothing but a ruinous collapse of civilization to commend it.

THE VALUE OF EDUCATION.

The antidote to these poisonous precepts is to be found in the extension of university teaching. Its administration should be on a large scale. Emerson was not far wrong when he wrote: "We shall one day learn to supersede politics by education."

Those who are painfully aware, by the fulness of their knowledge, of the greatness of their ignorance, will have to inculcate that greatest of all lessons to those whose ignorance draws pictures of a future paradise in which *a priori* theories will secure universal happiness. In such an earthly paradise, I am afraid, the tree of knowledge would be sought in vain.

The doctrine of human fallibility is not impugned by scientific progress, but rather the reverse, when we think of the darkness from which we are only just emerging. Faraday gave expression to this conviction when he said: "Society is not only ignorant as respects education of the judgment, but it is also ignorant of its ignorance."

Such a complex machinery as modern society, with its manifold wants, makes the organization of education more complex every day. Not by centralization, not by programme, not by circulars, not by examination papers, not even by lavish expenditure alone will success be attained.

What is wanted is that public spirit, that strong conviction in every man, woman, and child that education is a privilege; that the more education a man has the more he is to be respected. Does it exist? Yes; you will find it among the scattered population of the Highland glens of Scotland and of Switzerland, along the canals of the Netherlands, in the forests of Germany. It is a precious heritage. To increase it is our object.

The great chancellor of the German Empire once compared the struggle for gold between the central banks of Europe to a struggle among individuals for a blanket of insufficient size. The same process is at present going on in the various States of Europe with reference to education. We are all struggling for golden wisdom, with this great difference, that the gold we bring to the surface at once becomes the property of all. The discoveries of the biological marine station at Naples can be tested at St. Andrews, and the scientific work done at Strasburg can be utilised in Edinburgh.

Science cannot render men equal. The princes of science constitute a separate order, and when we enjoy the pleasure of contemplating or reading the works of genius we cannot help admitting our own inequality. A nation ceasing to reverence its great men is on the decline. Inequality is a law of nature; but so is liberty, and liberty is incompatible with equality. But if education alone makes liberty possible, by learning its uses and preventing its abuses, it also teaches us to be generous. The best educated man will also have the widest sympathies. The best educated people will also be the people which cements peace and good will among nations. [Loud cheers.]

MR. LOWELL'S WORDS.

Mr. J. Russell Lowell, the United States minister, proposed a vote of thanks to the Lord Reay for the address that had just been delivered. Like all present he had been much interested in his eloquent address.

He had been in the habit of advising young men to apply themselves to the study of German, for German he had found was a key that opened more doors and a greater variety of knowledge than any other that he knew. Although the study of Greek and Latin had always been cultivated at the university to which he belonged, the initiative had been taken in affording a wider liberty of choice. A young man at Harvard College could now obtain a knowledge of the modern as well as of the classical languages.

The question between ancient languages and science was rather a question of words than of things, as most questions of the kind were. It was a question which kind of knowledge gave the greatest advantages.

The desire to ascertain what subjects were the most important in education brought us back to the question whether literature was the most important element in civilization; but there were other elements which, if not of equal, were of first rate importance.

It was once possible to be an encyclopædic scholar. Dante, six hundred years ago, was a master of all the knowledge of his time. Nobody now would be so mad as to attempt to accomplish so much, yet Dante was absolutely ignorant of Greek.

The object of education in these days was to give a man a certain start; to give him, if possible, some hunger for knowledge.

He once knew a teacher of drawing, of whom he asked the question: How many can you teach to draw? "Anybody." It is to me you speak; how many can you teach in a hundred? "Well, fifty." But how many can you teach well? "Perhaps twenty." But how many to draw what you would call well? "Well, perhaps, in two or three years, one." [Laughter.]

One defect of modern teaching was, perhaps, that they tried to teach too much. As there were certain whimsicalities of appetite, so he presumed there were differences in the appetite for knowledge, which might be met by the establishment of such a university as that which Lord Reay had described. They would get solid and instructed scholars, instead of superficial attainments. [Cheers.]

MR. MUNDELLA SPEAKS.

Mr. MUNDELLA said: I think I shall be wise in confining myself to seconding the vote of thanks to Lord Reay for his suggestive—I had almost said exhaustive—address.

During the week the lord president and myself will attend this conference rather as learners than in any other capacity. We must all thank Lord Reay very heartily for his very excellent address; there seems to be scarcely a subject on the programme which he has omitted to touch. And though I cannot agree with all he says—though, in fact, I strongly dissent from some of his views—yet, on the whole, we must thank him for the expression of that noble sentiment in favour of education, which, as was truly said, finds so much favor in Scotland and in Germany; the sentiment of a desire for public spirit, and for the dissemination of education among the people; the determination that it should be imparted to every member of the community, fitting him for the proper discharge of his duties as a citizen.

THE VALUE OF DRAWING.

His excellency, the American minister, has supplemented in his own admirable fashion the excellent address of Lord Reay, and I hope that you will allow me to dissent from him also on one point [laughter], viz, in thinking that although only one in a hundred show artistic skill in drawing, nevertheless it is good for all to be taught drawing. [Mr. Lowell expressed his assent to this opinion.] Then I see that we are agreed that it will benefit even the humblest worker to be able to use his pencil in connection with the work in which he is engaged. By exercising that faculty you have made him a much more competent workman than if he had never been taught drawing. I beg to express my obligations to the noble lord for his address; he is well fitted to address an international conference, for we may say of him as was said of Cobden, that he is an "international" man. [Laughter.] We also thank him for his valuable services in connection with this conference, and for bringing together to the great advantage of the English people so many worthy representatives of education from various parts of the world. [Applause.]

The vote was put and carried by acclamation.

Lord Reay in response said he was very grateful for the patience of the audience. He had not attempted to cover all the points in the programme; in fact he had been rather uncomplimentary to the ladies in omitting all reference to female education. Knowing that strong and conflicting opinions were held on this subject he thought it prudent to abstain. [Laughter and applause.] Another reason for his omission was the fact that the subject had recently been most ably and exhaustively treated by a gentleman whom he still hoped to see in that conference, viz., M. Brial, Inspector of French Schools.

In regard to any points of difference that might arise he hoped they would settle them as amicably and quickly as the American minister had settled his difference with Mr. Mundella. [Laughter.] They owed great thanks to the Education Department for their cordial co-operation in promoting the conference, and he would especially acknowledge the services of Mr. Fitch. [Applause.] They also owed deep thanks to the foreign governments who had assisted them by sending eminent representatives to the conference, and they also cordially thanked the representatives themselves.

By their action the foreign governments had shown that they were aware that the cause of education was the cause of civilization. [Applause.]

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